The Theory and Practice of Handwriting

by

JOHN JACKSON, F.E.I.S.

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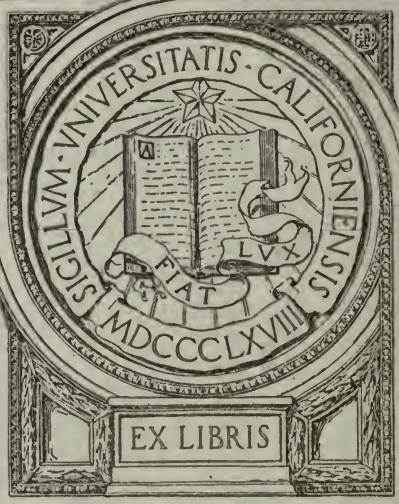

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THE THEORY AND PRACTICE OF HANDWRITING

BOOKS ON VERTICAL PENMANSHIP

BY

JOHN JACKSON, F. E. I. S., M. C. P.

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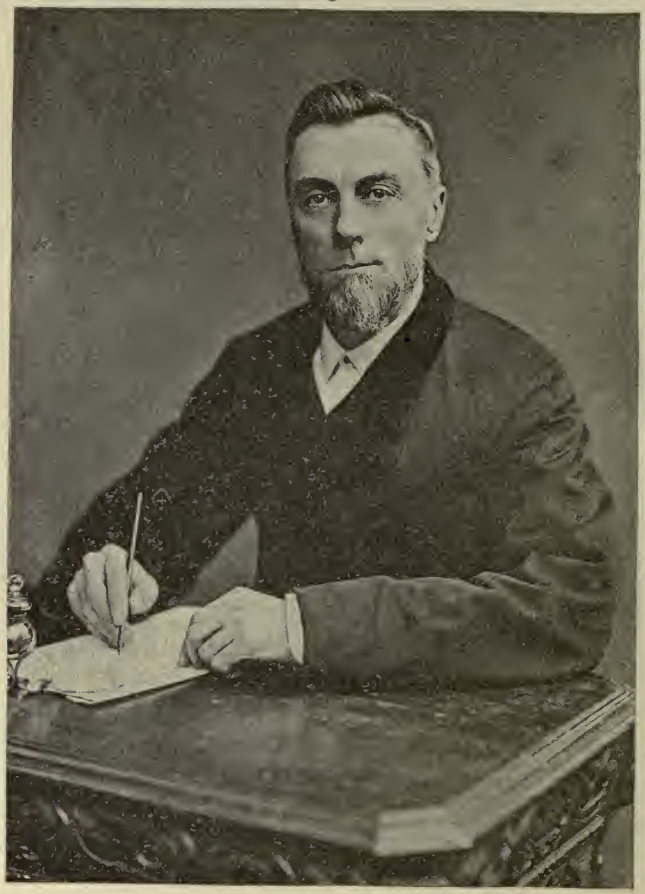

Faithfully Yours
John Jackson

THE

THEORY AND PRACTICE OF HANDWRITING

A PRACTICAL MANUAL FOR THE
GUIDANCE OF SCHOOL BOARDS, TEACHERS, AND
STUDENTS OF THE ART
WITH DIAGRAMS AND ILLUSTRATIONS

BY

JOHN JACKSON, F.E.I.S., M.C.P.

AUTHOR OF 'THE SYSTEM OF UPRIGHT PENMANSHIP OR HYGIENIC HANDWRITING,' 'VERTICAL *VS.* SLOPING WRITING,' 'HARISON'S VERTICAL PENMANSHIP PADS,' ETC.

REVISED EDITION.

NEW YORK
WILLIAM BEVERLEY HARISON
1894.

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W. Scott Thomas
to

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PREFACE

THE distinguished professor of Anatomy in the University of Vienna, Dr. Toldt, has declared that "The question of Instruc- "tion in Writing should occupy the first place, as the teaching "of that subject is attended with so great danger to Spinal "curvature, Breathing and digestive Disturbances, Myopia or "Shortsight." And the no less distinguished oculist, Professor Dr. Hermann Cohn, has publicly stated that "Vertical writing is "the writing of the future."

Realising the force of these official statements the Author has the more confidence in submitting to the Profession and Public a manual the chief object of which is to afford information on all the vital and important questions that modern research in the Art and Science of Handwriting has brought to the front. Hitherto Caligraphy has been considered exclusively as an art (witness the works and specimens of plain and ornamental penmanship extant up to a most recent date) but the latest investigations (both Medical and Educational) exhibit it to us as a Science.

Writing is undoubtedly one of the principal and most essential subjects taught in our Schools, but there is no text-book on the question which professes to be a work of reference and certainly none that deals "in extenso" with the topics which for some years past have so deeply agitated Medical (and to a smaller extent Educational) circles both at home and abroad. A glance at the list in Chapter XIII. will show how popularly and superficially the subject of Handwriting has been generally approached and the necessity for a production which shall give side by side the several arguments which have been adduced in favour of and in opposition to the theories propounded. Such vital matters as the relation of writing to Hygiene ; the substitution of Upright Pen-

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manship for sloping writing ; the universal adoption of Headline Copy Books ; the position of the Copy Book with reference to the writer :—these and other topics of a like nature have received lengthy treatment, as on the decision in each case serious issues depend. The first object has been to find out "**What the writing is**" we ought to teach and the second **how it ought to be written and taught**. It is a very common delusion that "**Anybody** can write" and the notion is most prevalent amongst Secondary School teachers many of whom give the subject hardly a place in their Routine or Curriculum. It is an equally deplorable fact that hardly anybody **does** write either as he might or as he should, and yet the efficient and successful teaching of writing in a school is frequently the most potent factor in its success. With parents (who constitute the public so far as schools are concerned) beautifully written Copy books and carefully written Home Exercises are not only evidence of satisfactory progress but they are regarded as an index to the discipline of the school, the thoroughness of the teaching, the neatness and precision of the general work and to the Education imparted. Very few teachers appear to apprehend or rightly value both the extern and intern influence which writing exerts on a School. Its virtue is immense. Good writing in the classes cultivates the eye, hand, and judgment, promotes habits of accuracy, observation, neatness and good taste, conduces to good order discipline and method, and by contagion infuses a salutary stimulus into every other branch of study taken up. Some one has said that it is better to lose a delusion than to find a truth, therefore if the following pages help to enlighten teachers on these matters assist them to lose a delusion and to convince them that the Science and Art of Writing cannot safely be ignored or neglected any longer the hopes of the writer will in a great measure be realised.

The author's thanks are specially due, and are herewith cordially tendered, to Dr. Emmanuel Bayr, Dr. Paul Schubert, and Mr. Noble Smith, F.R.C.S. Ed., L.R.C.P. Lond., &c., for their unvarying courtesy, and for their kindness in placing both works and services so generously at his disposal. Contributions from many other friends, both in England and on the Continent, are also gratefully acknowledged.

Revised for the United States. New York, May, 1894.

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FIG. 1.

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MANUAL OF HANDWRITING

CHAPTER I

WRITING AS IT NOW IS

THERE are more writers, or shall we say scribblers, in the world at the present moment than at any previous period of its history. But it would appear from all accounts that as the exponents of caligraphy have multiplied, the quality of the writing has deteriorated.

To fully describe and depict writing as it is the wide world over in our civilised age, would require a volume of itself. Suffice it in this chapter to furnish an amount of description, testimony or evidence and illustration, as shall adequately exhibit the existing condition of things in the writing world.

At the beginning of this century the art of penmanship was comparatively little practised. Education being in a sadly neglected condition, there were few facilities for teaching it. Schools—i.e. good schools—were few and far between, trained teachers were unknown, headline copy books had not been dreamt of—copy slips were scarce and difficult to get, and teachers for the most part had to rely solely on their own caligraphic ability, whilst as a natural sequence good writers remained in a mournfully small minority and the numbers of bad writers yearly increased. Gradually however as people woke up to a realisation of the state of affairs specially with reference to the masses and their ignorance of "Reading, Writing and Counting," more attention was directed to these subjects and the headline copy

book was one of the innovations which merged into life. These copy-books have grown and increased to an alarming extent during the past forty years. We say alarming, for the wisdom of having such a variety of antagonistic styles is much to be questioned. One has merely to look through the vast number of (headline) copy books in existence to be struck with the anomalies with which they abound. Every compiler or writer—and there is a material difference between the two—of a series of copy books naturally thinks and advertises his own peculiar production to be the best. But that each should be superior to all the others is impossible, and which amongst them is entitled to lay claim to superiority it is hopeless to attempt to determine.

We present for inspection (Figs. 3 to 6) specimens of eight large hand copies and eleven small-hand headlines taken from some of the popular series of copy books now in the market. Glancing at the selection made (p. 4) who would not be bewildered at the contrasts presented? And this is only a selection; yet it is seen that in no one respect do they all agree save in the most objectionable respect of all (as we shall show further on) viz. Slope. They are without exception off the vertical or perpendicular, but the degrees of divergence from the Upright, or the angles of Slope, are only limited by the number of specimens – and hardly that. With regard to their several characteristics it will be noted that generally they nearly all differ in the fundamental principles of construction, angle of slope, and style: some are heavy, stumpy and round, others light, flowing and almost angular: some very large others minutely small: some nearly upright others nearly horizontal: some open and wide almost square in their curves others close compact and oval: some with plain simple capitals others with elaborate and ornate capitals: some commencing with an extremely large and heavy hand as in the word "Permutation" others commencing with a smaller but still heavier hand as in the word "Whitsuntide."

In the books lying before us, and from certain of which these illustrations are severally taken, it is observed that some grade the letters according to system others according to caprice or not at

all : many advance by small steps others by wide and long gradations and so on, no two series possessing any features in common.

Now if Handwriting can be reduced to a rational or scientific system this infinite diversity is not only undesirable it is pernicious and unsound. For granted that one style can be formulated and projected which is absolutely superior to all others in construction, angle, &c., then unless that style be universally inculcated, an unfortunate section of the community is being taught to write a style which, according as it deviates from the acknowledged standard, is to that extent objectionable and inferior.

And this hypothesis—viz. of a standard system of penmanship —is not chimerical, it is logical and practical. Whilst however the present custom obtains, and in our schools every teacher exercises his own independent and uninstructed mind, teaching from any one of the multifarious headline Copy books that may strike his fancy or what is far worse from his own peculiar style and the black-board, what wonder if the caligraphy of the age is the laughing-stock of the age ! What wonder that our "**scribblers**" abound in their countless hosts and that our "writers" exist only in their isolated units by contrast ! In the absence of any harmony or uniformity in the essential elements and principles of the so-called systems of writing now in vogue who can expect the grand result to be anything but a "mixed medley," a promiscuous jumble of caligraphic contradictions and contortions ?

And passing from the schoolroom where such an anomalous and chaotic state of things prevails into the world outside, this is exactly what meets us. We can only describe the penmanship of the present age as a dreary waste of slightly variegated illegibility relieved here and there at long intervals by welcome exceptions of readable writing. In view of what reaches one continually by the post we may denounce the writing that obtains now-a-days as miserably poor and painfully illegible. The mistakes that are made, the money that is lost, the time that is wasted, the peace of mind that is disturbed, the annoyance and delays that are caused by undecipherable scrawls might make the angels weep, and not-

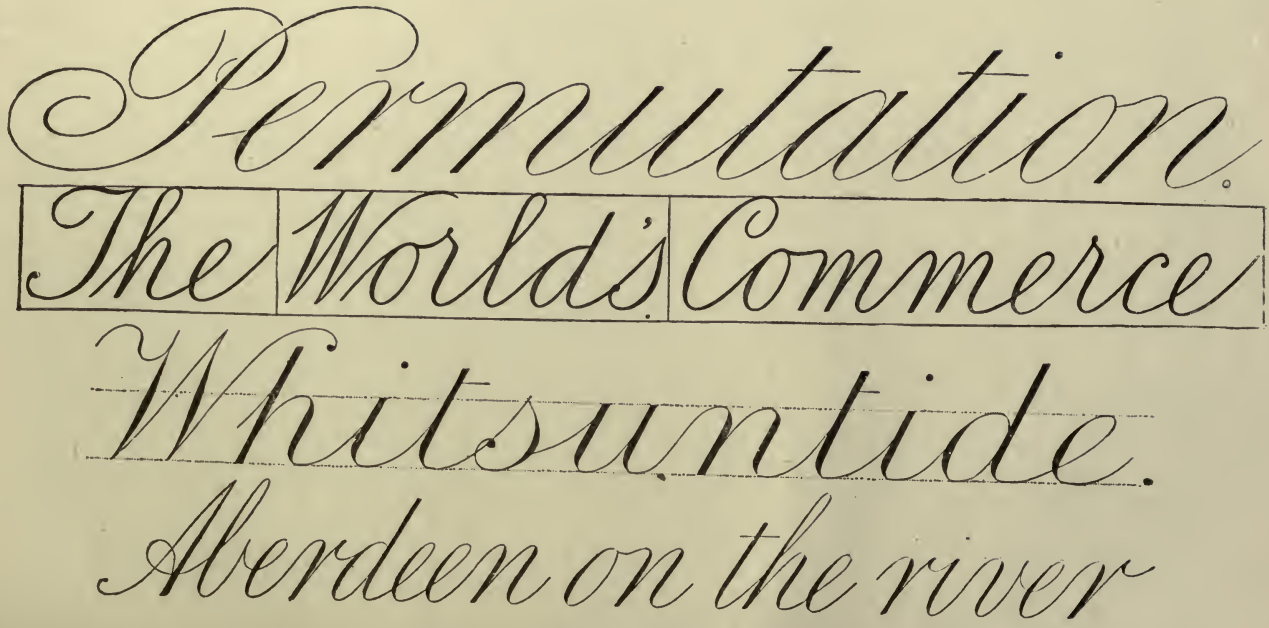

Permutation.
The World's Commerce
Whitsuntide.
Aberdeen on the river

Fig. 3.

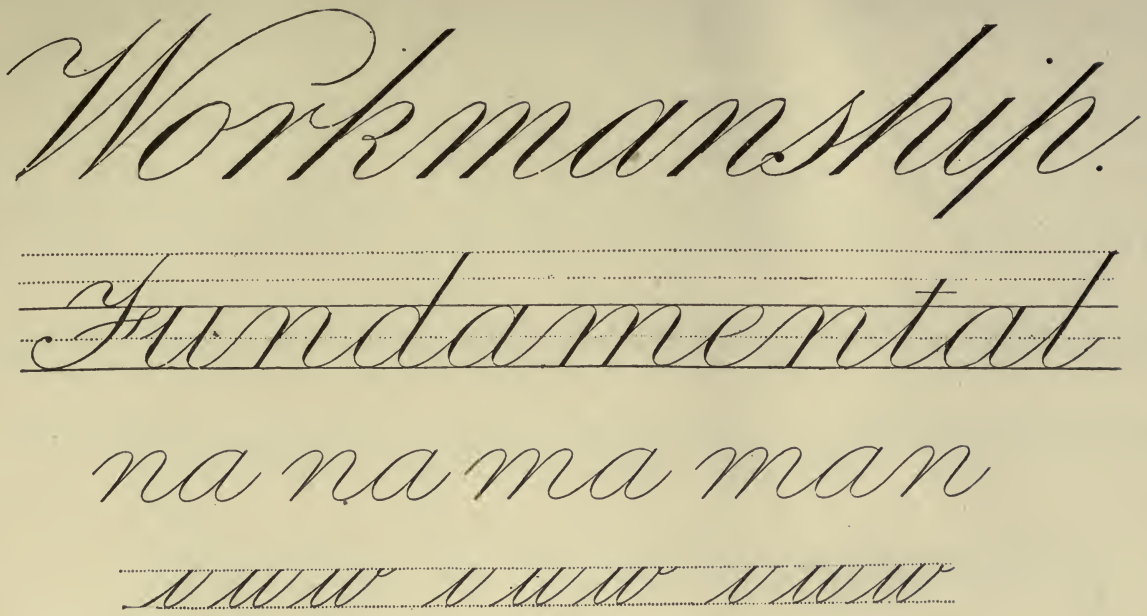


Fig. 4.

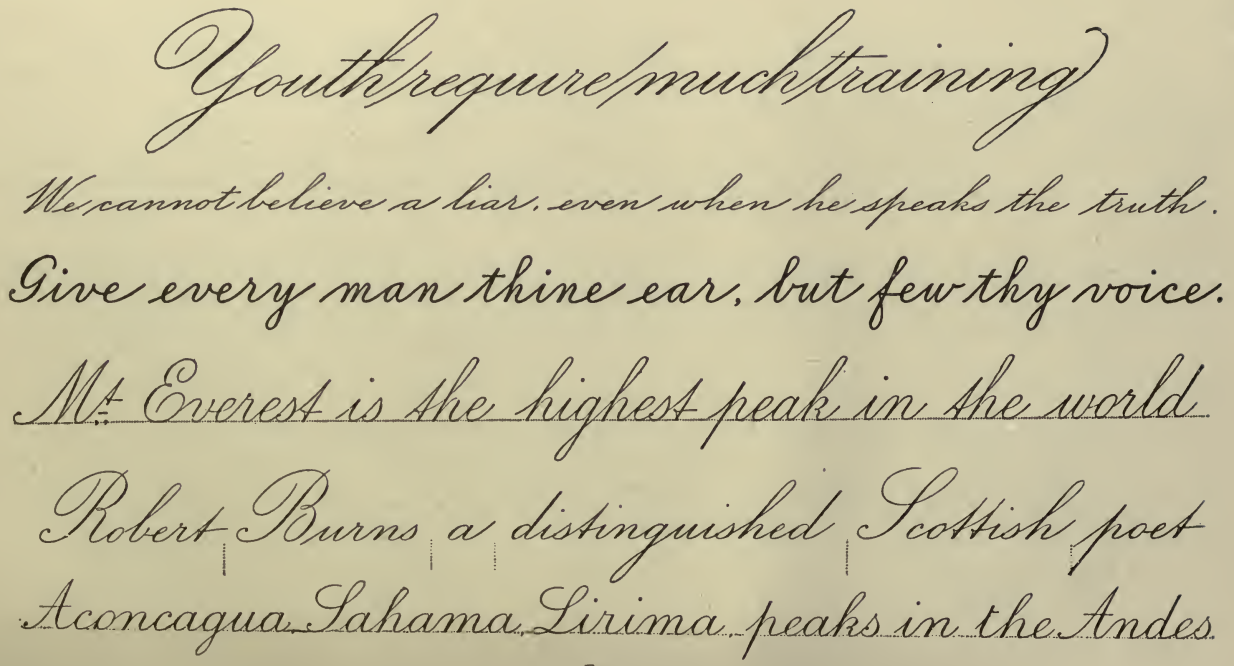

Youth require much training
We cannot believe a liar, even when he speaks the truth.
Give every man thine ear, but few thy voice.
Mt. Everest is the highest peak in the world
Robert Burns a distinguished Scottish poet
Aconcagua Sahama Lirima peaks in the Andes

FIG. 5.

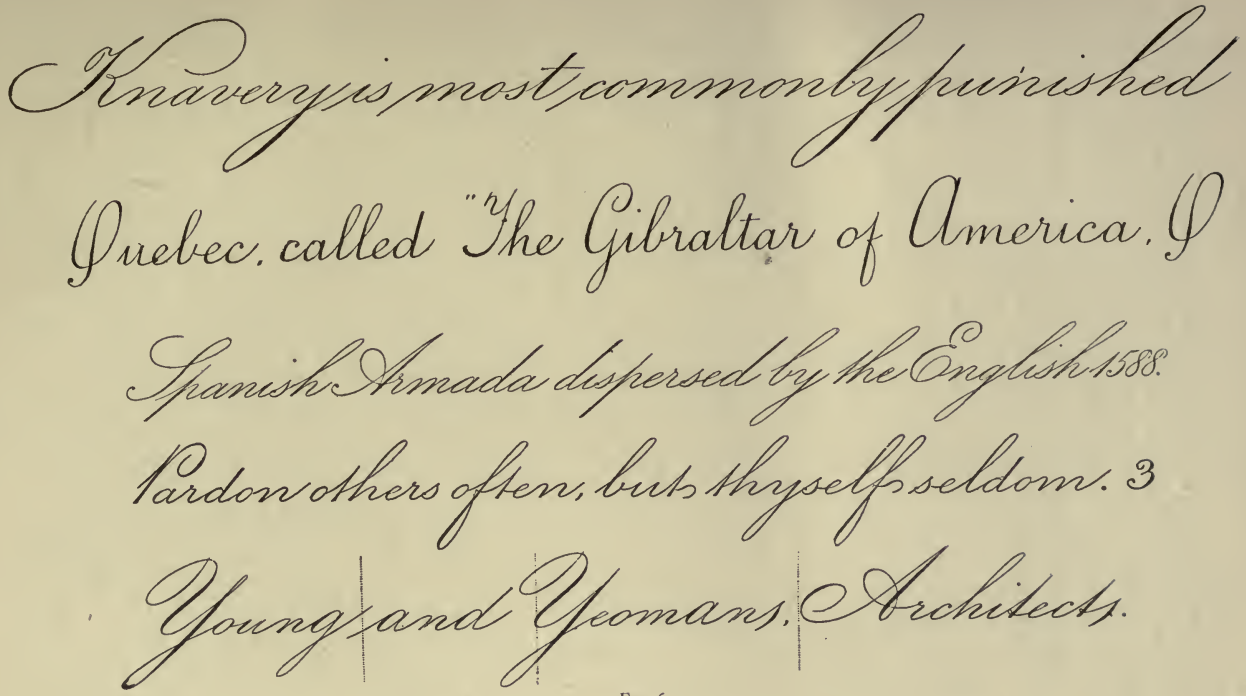

Knavery is most commonly punished
Quebec, called "The Gibraltar of America."
Spanish Armada dispersed by the English 1588.
Pardon others often, but thyself seldom. 3
Young and Yeomans, Architects.

FIG. 6.

withstanding, except a few inarticulate and individual grumblings, little in the way of protest is made against what every one admits to be a public and national disgrace. Our prevailing handwriting may claim the ambiguous and questionable merit that **it can be made to mean anything** but it is no less accurately described as Scribble of every conceivable Size, Shape and Slope.

The Press, the Commercial World, and Official Circles are happily beginning to realise the position, as evidence the following extract from the City Press (25th Nov. 1891).

"How is it that of late years the art of caligraphy has declined "amongst us to an almost alarming extent? Not so long since "everyone—save geniuses, who were allowed a free hand—could "write clearly and legibly, the reading of correspondence being as "a consequence a far more agreeable occupation than it unfortu- "nately is at the present moment. Now it is quite an exception "to come across a letter that even with a certain amount of "leniency can be said to be written at all legibly or distinctly. "Indeed, by far the greater part of a busy man's correspondence "consists of hurried scrawls which have to be actually spelled out "word by word. Commercial houses are already beginning to "experience a difficulty in finding, as clerks, young fellows who can "write a decent hand. Mr. Tritton, who may be taken as a typical "man of commerce, told a Mansion House meeting the other day "that fully 90 per cent. of the young men who applied to him for "situations wrote with a slovenliness that was altogether inexcu- "sable. The public, it seems to me, have the remedy in their own "hands to a certain extent. If they follow the advice of Sir "James Whitehead, and put on one side for future consideration "all letters which cannot be deciphered except with difficulty, "their correspondents, without a doubt, will soon realise that in "writing illegibly they only injure themselves. The result will "naturally be that they will cease to pen the wretched scrawls "that in the past they have dignified with the name of correspon- "dence. The present carelessness in the matter of handwriting is "in a great measure the fault of our schoolmasters, who, I have "reason to believe, no longer consider caligraphy as one of the

"subjects that their pupils should be taught. Perhaps they will "alter their minds now that, on the authority of Mr. Tritton, they "learn that young fellows otherwise eligible often lose situations "because of their wretched penmanship."

Other City merchants gave similar evidence and state that very often they have to throw nineteen out of every twenty applications into the waste paper basket.

But Great Britain is not alone in this sad dilemma. The "Detroit Free Press" declared a short time ago that not one person in a hundred wrote a legible signature and the same authority informed its readers that Prince Bismark was so impressed with the necessity for a reform that he fulminated an order that all persons should write their names legibly. The demand for a sweeping reformation in regard to our handwriting can no longer be disregarded. Of course the cry has ever been "What is the "cause of this deterioration"? "Where is the root of the malady"? This question will occupy our attention in a subsequent chapter. Meanwhile our ears are assailed on every side with the one trumpet-call coming alike from every class and department of the community "Give us Good Writers for we cannot get them, and "cannot do without them."

It may be accepted then as a demonstrated fact that the writing of the age is unsatisfactory, illegible and essentially bad.

That there is abundant need for reform amongst our teachers as to the teaching of writing no one can deny. I would refer the reader to Appendix I. (fig. 61), page 141. The three books there illustrated are typical of hundreds of cases where children in the school are allowed to write **page after page and Book after Book** of such pitiful scrawl without a solitary mark of direction, correction or disapproval. Can such teachers have the slightest apprehension or conception of what writing really is or ought to be? Did they ever see the writing at all or look at a single line of the work from the first page to the last?

In charity we must answer for them in the negative.

CHAPTER II

WRITING IN RELATION TO HYGIENE

This is a subject that has seldom if ever been referred to, much less treated and discussed in Works on Education or in Manuals of Handwriting.

The idea itself is only in its infancy and with one exception has been confined to medical essays and excerpts. Nevertheless wonderful progress has been made during the past two or three years ; and as medical men and teachers are the sole authorities on this subject, it will be sufficient to confine the arguments within the limits of their united evidence.

On the general question a paper was read by the author of these pages at the Seventh International Congress of Hygiene and Demography, London, August 1891, followed by a resolution, the substance and text of which are reproduced here as fairly covering the ground to be explored. On the particular aspects of the question as relating to Spinal Curvature and Shortsight a report by a Commission of Specialists was presented to the Imperial and Royal Supreme Council of Health Vienna February 1891. The substance of this Report will afford abundant proof of the relation of writing to health and will conclusively demonstrate the positions taken up.

Writing is almost as important as speaking, there being no occupation or rank in life into which as a potent factor and as an energising influence writing does not enter. In the diary of the private individual, the correspondence of everyday life, the records of business transactions, the literature of the author, the briefs of the barrister or the manuscripts of the Theologian and Ecclesiastic writing is equally essential and universal. Not only is it thus all

pervasive throughout civilised society it rises to even greater prominence and significance in the case of the hundreds of thousands who as secretaries, copyists or clerks follow writing as their profession or business, and derive from it their sole means of subsistence.

Such persons are occupied the year round, for from 8 to 16 hours daily, exclusively in clerical work. It is impossible to exaggerate the importance of an art which is pre-eminently the vital principle in the machinery of the Law, the Civil Service, Commerce, Science and individual as well as international communication. If we look into the origin and development of handwriting we find it had its birth in an age of semi-barbarism; that at first it consisted of the most imperfect pictorial representations, which gradually merged into a still crude hieroglyphic as the basis of an incipient alphabet. Subsequently this alphabet was improved and modified, and at last developed into what may be termed a phonetic one, although very defective, the characters having little scientific meaning or relationship. From the ornate and laboured style of the mediæval period the present Italian style has been evolved, and if we carefully trace this evolution through its manifold stages and variations, we discover that it and they have all been purely responsive to exclusively caligraphic or so-called artistic demands. Pursuing the investigation a step further, the fact is revealed that these caligraphic and artistic demands have been dictated and controlled, not by logical or scientific principles, but by capricious and often conflicting theories.

The writing, and not the writer, has always been the supreme consideration in the growth of the art of penmanship. A certain style of writing was deemed or decreed to be essential, the idea of protest was never entertained, and our ancestors had to bend cringe and twist under the system of bondage thus established. As to Hygienic principles these have never been associated even in a remote degree with the history of slanting writing that for some two hundred years has flourished amongst us.

Indeed physiological requirements have not been recognised much less urged until within the past few years, and even at the

present day but few teachers would be found to spontaneously admit any possible connection between Hygiene and Handwriting That these Hygienic principles should be an integral part of any system of penmanship whatever, there cannot be the shadow of a doubt, but it may be emphatically stated that the existing style of oblique or slant writing has been elaborated not only independently, but in spite of every physiological demand. Awkward and painful postures have always accompanied the practice of sloping writing. It is more than surprising that such injurious distortions should ever have been for one moment tolerated, but the power or dominance of **fashion** over our minds is incredibly imperious and overwhelming. It is not the less remarkable that when the subject of school postures first engaged the attention of the medical faculty the real root of the malady was never for one moment suspected and that it remained for so long a time undiscovered. Possibly this was after all not unnatural as the idea of a flaw or defect in the writing itself would be the last to strike the mind of the enquirer.

Hence the various and contradictory charges that have been made. First, the Instruction was at fault. Teachers were indifferent or not sufficiently careful to inculcate correct position. It only needed strict attention efficient and constant supervision to remedy the evil. Time and experience however proved the contrary, for unhealthy postures were found co-existent with the most sedulous care and perfect instruction. A crusade was then inaugurated against Desks and Seats – and not before time. The former were too sloping or otherwise, too high or too low, and furthermore they were not adjustable, so we got adjustable desks and broader seats, both being brought to a state of almost perfect Hygienic and mechanical excellence. Nevertheless the Bad Postures survived still.

The question of Light was next considered, but when that was set right the positions were still wrong and the matter remained in abeyance for a brief space. Last of all attention was directed to the Writing (the Sloping Writing) itself, and it is cause for congratulation that this attack was made ; for the unanimous opinion

of the numerous experts engaged in the investigation is that the **Slant** or **Slope** of our writing is the undoubted cause of the abnormal and injurious postures so grievously complained of. As will appear in the Sequel there is no room for doubt, question or challenge. Teachers, Oculists and Surgeons combine in one united body and give an unqualified verdict. For thirty years we have had abundant opportunity for observation and experiment and we give an emphatic, unreserved confirmation to the testimony just alluded to. No matter what pattern desks and seats are in use, what the light may be and what the nature and thoroughness of the instruction ; whenever children are required to write in the sloping style their postures will present every variety of abnormity and distortion.

The concurrent evidence of a body of medical experts and specialists supported by the experience of thousands of teachers goes to show that in sloping writing the side position of the body is inevitable ; that twisting of the head or neck, and distortion of the spine must accompany this side position ; that displacement of the right shoulder, deflection of the wrist, a disturbance of the common action of the two eyes with a consequent delusive and oblique view of the book, and an unhealthy compression of the chest walls involving pneumonic and gastric disturbances, are the inseparable accompaniments of the postures required in and necessary to oblique writing.

The directions generally prescribed to a writing class where sloping penmanship is taught run as follow :—

1. Left sides to the desk.
2. Left arms close in to side.
3. Left hands on Copy Books.
4. Right elbows in to side.
5. Pens pointing to right ear (or chin).
6. Faces turned towards Books.
7. Grasp pens firmly and Go on ! ! !

What **can** be expected from a system of writing that inflicts such conditions as these? As to the writing an answer is supplied in Chapter I,—it is a miserable failure ; and with reference

to the writers themselves we get such a number of debilitated and deformed victims so seriously affected in lungs, spine or eyes as to create a feeling of alarm in medical and educational circles and even in Departments and Councils.

Eminent Medical Gentlemen have pursued their investigations into the question of postures in schools with great ability patience and success. Such experts as Barnard, Cohn, Carpenter, Carter, Coindet Reuss, Lorenz, Smith have been indefatigably working, with the outcome of a unanimous pronouncement that all the ills which initiated the inquiry are traceable to the postures assumed in and required by the Slanting writing.

One writer says "The postures of young people assumed in "the sloping writing are one of the chief factors in the production "of spinal curvature."

Another declares these postures to be "without doubt recognis- "able as one of the most frequent causes of crooked growth." Were this the only effect it would be more than enough to justify an official inquiry into the whole question; but when equally dismal testimony is borne to the injury of other organs (notably the eyes) and the interference with other functions, the urgency of the case becomes irresistible.

Vertical Writing is the only specific for these abnormal postures and their train of disastrous consequences. The elaboration of the argument in support of this statement will be found in the able analysis detailed in Appendix II at the end of this volume. The material difference between this Upright or Perpendicular Style and Slanting Writing is in the **Direction of the Downstrokes** of the letters; in the former being definitely and absolutely Vertical in the latter indefinitely and variously Sloped or Oblique. It is incredible what a difference this slight and seemingly insignificant alteration in the down strokes makes, and what an effect it exerts upon the writer. When found in conjunction with the minor characteristics of the system, viz. short loops, minimum thickness and continuity the results are almost magical.

Before detailing the several Hygienic merits of Upright Pen-

See also Report of French Commission, by Dr. Javal (Physiology of Writing, Pocket Pedagogical Library, No. 2).

manship reference may be made to some of the statements of Medical Men in regard to its claims. The opinions are dogmatic and incontestable.

"Vertical Writing is the only system consistent with all "Hygienic principles."

"It is impossible for writers to avoid twisting the Spine unless "they adopt an upright style of caligraphy."

"The absolute superiority of this method of writing over other "methods must be recognised."

"Upright Writing is very much to be preferred to oblique "Writing."

Now what is the posture necessary to the Vertical Writing? In one word it is the **natural** position, indeed it is the posture that a pupil will instinctively assume in the effort to write vertically. Granted that the book lies evenly on the desk in the straight middle position (as described further on) and that the Scholar has been duly instructed how to hold his pen, the writer's position is actually dictated by the style of writing adopted, and he sits square before his desk both arms evenly placed thereon, the whole posture being the simplest and easiest that could be prescribed for the work to be done. The eyes look straight down upon the page, the hand wrist and arm are in the best condition and relation for a running handwriting, the body is not distressed by artificial posing, the spine rests in a normal condition, the chest remains free from all external pressure, and the writing is thus produced with the least expenditure of energy and therefore with the minimum amount of weariness.

By referring to the diagrams (figs. 7 & 8) it will be observed that instead of the oblique or side position we have the square or front posture ; instead of the head all awry we have a straight pose securing an identity or parallelism of the facial and chest planes with the edge of the desk ; instead of the elbows close in to the side we have them both unrestricted and free ; instead of the oblique and hence delusive view of the book we secure an even and perfect command of the page ; and in place of the awkward

sprawl over the desk we have the nearly upright position, free from even the tendency towards an unhealthy or painful attitude. It may be safely asserted that since all unnatural positions are

Position in Sloping Writing (Front View). Fig. 7. Position in Vertical Writing (Front View).

precluded from the System, Vertical Writing strictly fulfils every Hygienic requirement.

When we turn to the actual achievements of Vertical Writing, as exhibited in the evidence of numerous teachers in schools of

all grades where it has been adopted and tested what do we see? In passing let it be remembered that this test of experience is the crucial test, which has once for all determined the correctness and

Twisted Position Required and Taught in Sloping Writing. (Back View.)

Natural Position Required and Taught in Vertical Writing. (Back View.)

Fig. 8.

soundness of medical theories and deductions, as well as of our own frequently repeated categorical assertions. It is found that the **Evidence is Uniform**, undisturbed by a single conflicting dissentient. Scores and hundreds of these contributions have

been received (from all parts of Great Britain and the Continent) yielding a variety of testimony covering every point in the controversy. Whilst teachers unanimously declare that vertical writing disposes finally and satisfactorily of the painful postures that have in the Sloping writing worked such havoc amongst school children for so many years, they also unite in testifying that the Upright Penmanship enkindles a greater interest in the art specially with pupils, that it entails much less labour in teaching, that it

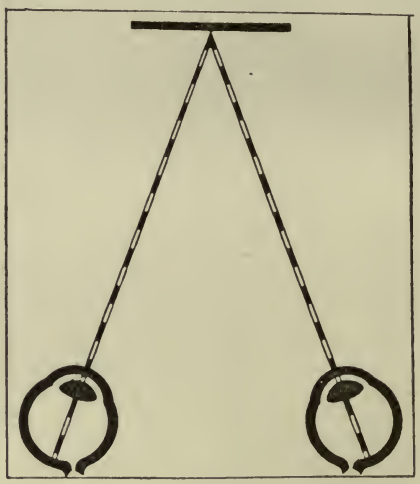


Fig. 9.

wonderfully accelerates the rate of progress and improvement, that it secures a much higher standard of excellence and that it materially increases the speed of the writer. These points however will be considered later on.

During the discussion which followed the reading of his paper the author formulated the following resolution, which, being proposed by Dr. Noble Smith (and by Dr. Kotelmann in German) and seconded by Professor Gladstone (then) Vice Chairman of the School Board for London, was put and carried.

"That, as the Hygienic advantages of Vertical Writing have "been clearly demonstrated and established both by Medical in- "vestigation and practical experiment and that as by its adoption

"the injurious postures so productive of spinal curvature and "short sight are to a very great extent avoided, it is hereby "recommended that Upright Penmanship be introduced and "generally taught in our elementary and secondary schools."

Every member of the congress that addressed the section spoke in unqualified terms of the claims of Upright Penmanship to every Hygienic Superiority, and nothing could have been more unanimous than the feeling which pervaded the entire meeting on the subject.

To proceed to the aspects of this Hygienic Relation in a particular sense, we would direct attention to the opinions and report of the Specialists appointed by the Vienna Supreme Council to investigate the effect of Vertical Writing upon the attitude of the body and the checking of defects of sight —Professor A. R. v. Reuss (University Vienna) in Ophthalmology and Professor A. Lorenz (University Vienna) in Orthopædics. Report of French Commission—Dr. Javal, Physiologie de l'Ecriture (Pocket Pedagogical Library, No. 2).

A. Professor Reuss' (Ophthalmologist) opinion in respect of Ophthalmology

For years the School Desk question occupied medical men and teachers. Short sight and spinal curvature continually increasing in number and degree called for preventive measures. The question of School Desks was considered as solved by a correct proportioning to the size of the writer, by the introduction of the minimum distance and the application of back-rests. The question proved unsolved. Children sat upon the new benches approved by the faculty **just as badly as upon the old**. . . . To the oculist and to the surgeon it was always evident that the position of the head in writing exercises a powerful influence on the attitude of the whole body, and that an abnormity in the pose of the head which is at first apparently unimportant soon brings in its train a very erroneous position of the entire body. It was also found that in reading we always turn the head so that the base-line of the eyes (that is the line connecting the axes of the two eyes) if prolonged to meet the surface of the page corresponds

to the direction of the lines of print. Moreover in writing it will usually be seen that the ground strokes of the letters stand perpendicular to this prolongation of the base-line of the eyes. The direction of the lines of writing and the angle which the downstrokes make with those lines influence considerably therefore the attitude of the head and body of the writer. But even here there soon appeared a difference between theory and practice. People thought that if only the ground strokes came to be vertical to the edge of the desk the base line of the eyes must needs remain parallel to this edge and so the whole body exhibits an upright posture. But this was not so. In the so-called oblique middle position (see Chap. VII. for explanation) of the Copy Book the above postulate was fulfilled and yet the children sat awry. It became manifest that the direction of the lines exercised a great influence on the attitude of the body and that the school children placed the base-line of their eyes parallel to the edge of the desk when the lines also ran parallel to it provided that a turning of the head was not necessitated by the obliquity of the letters, i.e., provided the ground strokes stand upright on the lines or in other words that vertical writing is used.

To Principal Dr. Bayr we owe the service of having first proved by experiments on a large scale the accuracy of the hypotheses or theoretical considerations we have just briefly stated. They triumphantly furnished the proof. The position of the scholars in Vertical Writing is an exemplary one ; the head is slightly bent and remains—which, to the oculist, is the most essential point—at a suitable distance from the desk, and therewith the whole body preserves a correct attitude. The desks on which these experiments took place were not such as to exercise especially favourable effect on the posture and it was observed that the same scholars who sat correctly in Vertical Writing at once assumed the faulty posture which is found in all schools during writing as soon as they wrote a sloping hand. In fact it could easily be recognised by the attitude of the body in which style they were writing when part of the pupils were instructed to write sloping and part upright.

One must however at once meet an objection which was made on the part of a teacher.

"If in a school" says he "one subject is cultivated so much "beyond others as writing is with Dr. Bayr and if the attitude of "the body is so closely supervised as by him then it is no wonder "that the children sit upright. It must not be forgotten that girls "especially when these experiments are carried out easily exag- "gerate involuntarily the faulty postures of body in oblique "writing. Moreover the pupils if they do not wish to be in the "way with their pen when writing are forced to a position of the "hand in which they can only write a round style or Roman "hand: therefore the introduction of vertical writing will be "equivalent to the adoption of Roman hand by the exclusion of "the present current hand: the latter is however a national "peculiarity," and so on. One sees with what remarkable views hygienic questions can be judged.

A reply is necessary because this solitary voice apparently represents the opinion of a whole party.

Before everything it must be mentioned that the bad position of pupils in Oblique writing as it was observed in Herr Bayr's school differs as little in character as in degree from the usual writing position as can be seen at any time in any school and as has been observed since special attention was given to the bodily attitude of pupils. A warning from the teacher improves the position for a few minutes but quite spontaneously the oblique position soon returns.

Even if the continual upright position during the practice of vertical writing were only the result of a firm discipline it would be a circumstance greatly in favour of this style. Furthermore in other schools where no attention is given to the position of the ground strokes—in which on the contrary the principle of leaving the slant of the letters to the fancy of the pupil holds good—it was observed that individual scholars who had a specially correct posture wrote in upright fashion or nearly so and here any special oversight of the pupils was completely excluded.

If in Vertical Writing (but this is beyond the province of the

Medical man to investigate) the Roman hand is possible and if the introduction of the former is equivalent to a monopoly for the latter this can only be hailed with gladness by Medical men.

By the dropping of one alphabet (there are really two now written and printed) an important relief would be afforded to the pupil and therewith also would disappear a national peculiarity which compels the Germans, in distinction to other nations, to allow their children's eyes to undergo a double strain.

Were one to prove the value of a correct position of the head from an oculist's point of view this would be going much too far and besides would be superfluous, for one cannot consider the defence of a position which no one attacks.

This only shall be stated that Vertical Writing, in addition, makes it possible to prescribe spectacles for pupils who are already shortsighted without the subsequent fear that this will help the increase of myopia through an incorrect position of the head.

That vertical writing necessitates another form of Copy book, that is with shorter lines, is a very subordinate matter and one must in this as in many other respects realise the fact that while vertical writing is with us an unusual thing, it is as far as I know a usual thing in England and America.

"It is therefore, strongly recommended that the Imperial and "Royal Supreme Council of Health would support to the utmost "the endeavours towards a general adoption of Vertical Writing."

B. Opinions in Respect of Orthopædics

At the request of Herr Bayr, conductor of the City Public School in Vienna, the Commission composed of Messrs. Councillor Kusy, Councillor of Health Albert, and the experts Messrs. Von Reuss, Gouber and Lorenz met in the aforenamed school building to undertake an inspection of the children who were using the upright style of writing.

In the report now presented the theoretical grounds which were alleged on behalf of the straight middle position of the Copy Book and against the oblique middle position will not be stated, for

this question has already repeatedly been exhaustively discussed. It must however be said that the results of the latest researches in this field (the eminent work of the Oculist Dr. Schubert of Nuremberg is here referred to) speak without exception in favour of Vertical Writing.

The problem before the Commission consisted simply in this: to see in use the System of vertical writing introduced methodically by Herr Dr. Bayr into the institution under his charge and especially to observe its influence on the attitude of the children while writing.

In this connection it must be stated that the Members of the Commission have unanimously carried away the best impression of the correctness of attitude of the children who write the upright hand. By the arrangement made—the children on the desks on one side of the schoolroom writing the customary oblique style those in the desks opposite on the contrary the upright hand—the extraordinarily favourable impression which the attitude of the vertical writers made was rendered much more emphatic and important.

The aforesaid correct posture of body of those children who used vertical writing showed itself, without any influence whatever on the part of the superintending teacher, so characteristic and so constant that in a second class where children who wrote upright and those who wrote obliquely were grouped quite irregularly the members of the Commission were able even from a distance--and more easily upon a close view especially from behind—to distinguish the two groups one from another.

Further it was evident that also for rapidity of writing the children in some degree accustomed to Vertical Writing were in no way behind those who wrote obliquely.

It deserves special mention that the children use for vertical writing no specially made pens (as was stated in many quarters) but with the usual and customary instruments wrote a hand which was as pleasing as it was clear and legible. Specimens of it were submitted to the Commission.

It was remarkable that the Vertical writers showed a perma-

nently upright position of the head. With the oblique writers even if the position of the head were good at the beginning of the work gradually in the course of the writing lesson there appeared a marked tendency to bend the head to the left. The position of the head is affected in an obvious degree by the direction of the lines of writing and since these run parallel to the edge of the desk in Vertical Writing the necessity of turning the head to the left is done away with for the child who writes upright whereas the oblique writer is, to some extent, compelled to turn his head owing to the lines ascending towards the right.

A normal position of the head must be received as the primary essential of a good posture in writing. Each side turning of the head is necessarily followed, by lateral movements of the spinal column whose frequent return with longer duration each time is without doubt recognisable as one of the most frequent causes of crooked growth.

Quite apart from all other advantages **the absolute superiority of this method of writing over other methods must be admitted**, for the children who use it are not in the least compelled to any lateral twisting of the head owing to the kind of manipulation used in what we may call their professional work.

The practical use of vertical writing corroborates the theoretical inference that it does not by the method and manner of practising it, conceal within itself the tendency or compulsion to an oblique position of sitting and consequently to a crooked growth.

Given rightly-proportioned desks—and especially back-rests which are suitably constructed and adapted to the writing position by means of which the fatigue which inevitably follows each position of sitting is most effectually held in check—Vertical Writing is very much to be preferred from the orthopædic point of view to oblique writing, and has been recommended for a long time by many orthopædic Surgeons in private practice with the best results for rendering the writing position a healthy one !

Comment on the tone and conclusions of the above report

would be superfluous. The investigation was so complete, the experiment so thorough and the decision so unanimous that nothing could add to its effect and authority.

We presume there can be no appeal from the almost identical findings of these two supreme Councils. Indeed who would feel himself qualified to challenge them particularly as they are supported by universal experience.

The finality of the verdict is, and must be recognised by every thinking mind.

But here the obligation and responsibility of Teachers commence, here the prerogative of our Educational Boards and Departments should be exercised. Shall Hundreds of Thousands of our children continue to suffer the injuries and inconveniences inflicted by an admittedly pernicious System of Sloping Writing when a perfectly harmless, Hygienic and in every way Superior System of Penmanship is both existing and available? Shall health be ruined, eyesight be deteriorated, body be deformed in hundreds nay thousands of instances every year by a method of writing which apart from Physiological considerations is in itself a caligraphic failure (as was demonstrated in the preceding chapter)? Ought not our Bureau of Education, our School Superintendents, our School Boards and beyond all our School Teachers themselves to take vigorous and immediate action in a matter fraught with such grave issues? Delay is dangerous, indifference is criminal and inaction equally fatal, both as to bodily health and our standard of writing as a National accomplishment.

CHAPTER III

UPRIGHT OR SLOPING WRITING—WHICH?

If the question of Verticality or Obliquity in writing were to be decided by the considerations of Hygiene only there would be no further need of discussion. But there are various other matters which should obviously receive examination and be definitely settled ere we finally determine the kind of writing which we have to teach. In approaching this investigation it is necessary that we divest ourselves of all preconceived ideas and all personal prejudice. It is not a question of what style of writing we **like** best—though to hear the objections generally raised by teachers we might suppose preference and prejudice to be the only basis of judgment and decision—or even what we **think** best—which opinions are possibly or probably based on no independent research but are rather the natural evolution of our environment.

The sole question about which we have to concern ourselves is "Which **is** the best? What or which **is** the better or best System and Style of writing? Are the down strokes to be Upright or Sloping? Shall we have Vertical or Oblique writing? If the latter what degree of slope is the best, what shall be the standard angle?"

We have already seen in Chapter I. that at present there is no agreement amongst slopers as to the preferential angle, not even a preponderance of opinion as to any one angle of obliquity, the angles in Headline Copy Books varying from 10° to 65° or even 70° from the perpendicular.

The tendency of modern thought can nevertheless be seen in the fact that the latest series of Copies slope less and less, or more nearly approach the vertical, whilst the publishers or authors

base their strongest claims to public favour on this close approximation to the upright. And this is illustrated still further in the decrees of the Belgian and German Educational Cabinets which prescribe that no writing taught in the Government schools shall have a slope of more than 10° and 20° from the Vertical respectively. In order then to decide authoritatively and finally which (if either) is superior and which (if either) possesses such an excess of merit as to warrant its adoption and the ultimate condemnation and abandonment of its rival, an enquiry must be made into the very essentials or fundamentals of Good Writing.

What are the distinguishing qualities or the prime factors so to speak of a really good handwriting? In the first place it must be legible or easily read. Then it should be rapid and easily written. Moreover it must be easy to learn and easy to teach. Having already disposed of the Hygienic element we need not refer to it in this connexion at any length. The best system or style of Caligraphy then will be that which is at once the Most Legible, Most Rapid, Most Economical, and Most easy to learn, teach and produce. Of course it is taken for granted that the letters are well formed and in strict accord with the accepted principles of construction. Assuming that this definition of Good, or the Best, Writing is, if not critically the most perfect, at least generally correct and comprehensive, it is proposed to examine the two Systems on these lines and to test their individual merits by these four several standards.

First as to

LEGIBILITY:

which is the more legible, Sloping or Slanting writing? Which the more easily read? A very simple illustration will be sufficient to answer the question. In Fig. 10 there are five rows of right lines, eleven lines in each row. Now what is the optical effect produced in the observer, and what is the actual fact as regards these lines? The impression produced upon any one looking carefully at these rows is that the lines in the lowest rank are shorter than the others and that they are drawn closer together,

that as we proceed upwards the lines become longer and are drawn wider apart, i.e. to base points at greater distances.

These optical effects are however delusions or deceptions

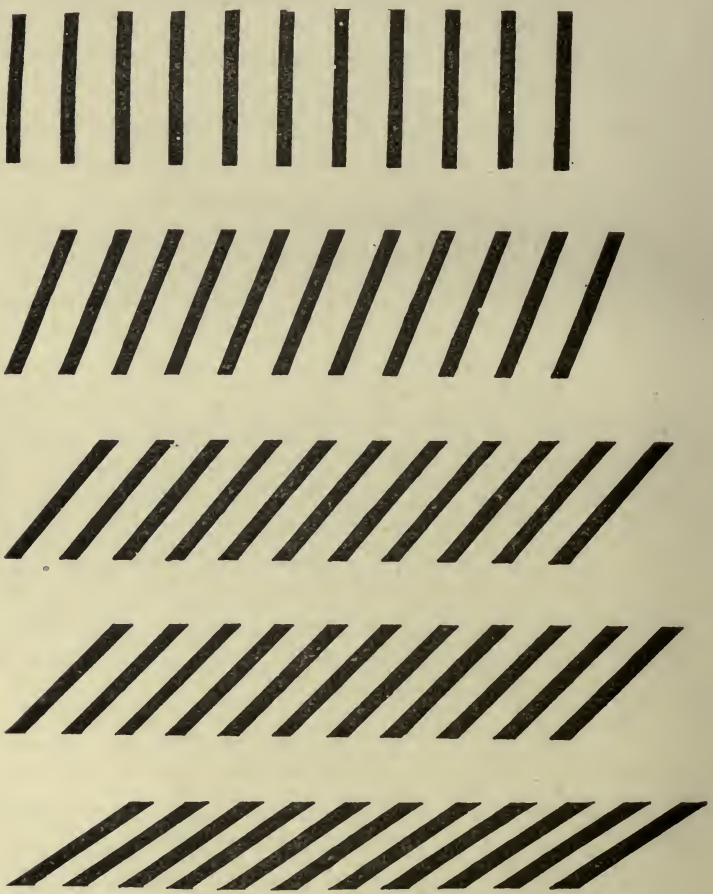


Fig. 10.

caused by the sloping nature of the strokes. For the actual fact is that the lines in all the rows are equal in length and that they are all drawn to base points equi-distant from each other as can be ascertained by verifying measurement. The impression that

the sloping lines are nearer to each other than the vertical strokes is nevertheless true, but this nearness is caused not by the base points being nearer together but from the geometrical principles

Fig. 11.

that govern all parallel right lines drawn vertically and obliquely to any horizontal from points equi-distant from each other, all lines approaching more nearly to one another as the slope increases until coincidence is reached at 90° from the upright. Since

then it is a demonstrated law that lines are clear distinct and legible in proportion as they are separate from each other, that all lines but the vertical are more or less delusive in their effects and

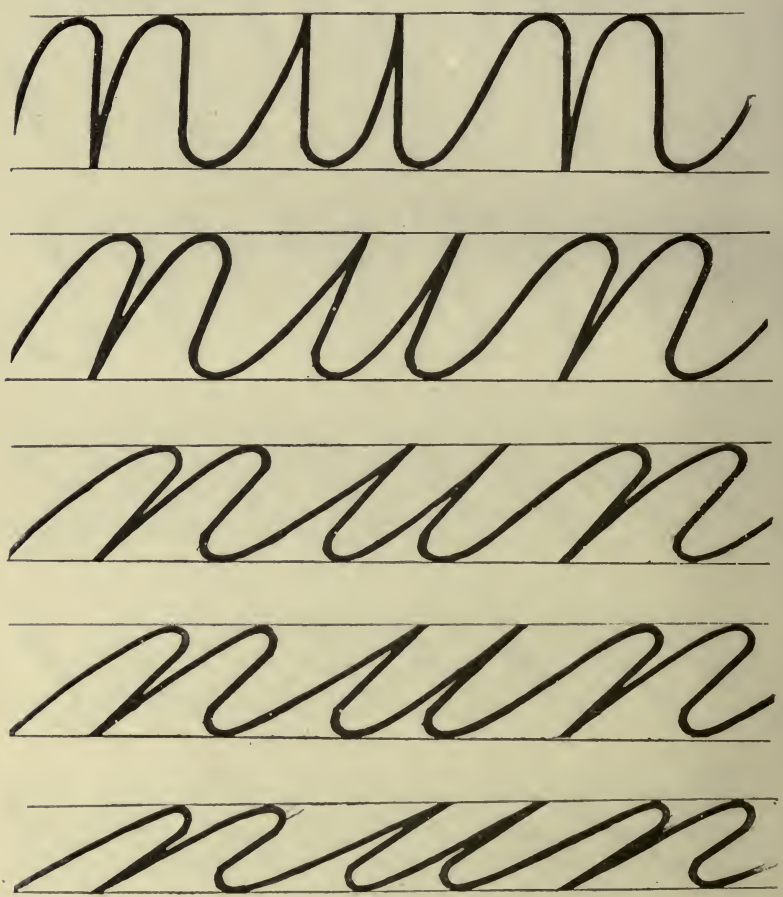


Fig. 12.

that the upright lines possess a maximum of isolation or width apart, it follows both logically and geometrically that vertical writing must be the clearest and the most legible. Figs. 11 and 12 in which the words "men" and "nun" are written vertically and at

ordinary slopes exhibit a fair comparison of the relative legibility of the two styles.

There can be no doubt as to the superior boldness and legibility of the Upright penmanship. The down strokes are of the same length and weight in each column but the effect is wonderfully different. It will be seen that the vertical affords much more scope for a bold and perfect outline than the oblique style can possibly admit of, and that the greater the slope, the more attenuated, the closer and more imperfect the outline. Now as enthusiasts on both sides claim superiority in Legibility one might consequently imagine that it was a matter of opinion. The foregoing remarks prove that this is not so. Our books, pamphlets, newspapers—in short literature of all kinds—are printed **not** in italics or sloping type but in plain, and plain because vertical, Roman upright characters. Italics and sloping script are not as legible as upright type and writing. This superior readableness of Vertical handwriting is everywhere recognised (notwithstanding the feeble protests of a small minority of too enthusiastic slopers) by the Government and Civil Service in which latter the system is becoming increasingly popular and general in every department. The instructions on Government Examination papers or in the Blue Books run as follow: "Let your writing be as bold and "upright as possible." "Writing should as far as possible "imitate broad printing." There can be no doubt as to the inferior plainness of sloping writing and as to the fact that Upright Penmanship has justified its claim to the maximum of Legibility.

Speed or Rate of Pen-travelling

The most rapid writers in the Western Union Telegraph Co. use the Vertical Writing, BECAUSE IT IS THE MOST RAPID and because it can be written with LESS FATIGUE THAN THE SLOPING. The style is that taught by the author.

At the first glance it might be thought that sloping writing would certainly have the advantage with respect to rapidity or speed. The slanting strokes seem to be so much freer as they certainly are so much longer than the vertical, that one is inclined to think the oblique style more expeditious than the upright. When we come however to enquire into the conditions and laws

which regulate and fix the rate of pen-travelling we find several considerations must enter into the discussion and that each is adverse to sloping penmanship. The conclusions of Chapter II. are both pertinent and vital to the discussion. Position or the posture of the writer is of the highest moment. A free easy and normal attitude must be more favourable to and will also secure a higher speed than a stiff, constrained and painful position could possibly permit.

If, as it has been abundantly proved, the posture in Vertical writing be free and natural whilst in Slanting writing it is twisted and awkward the question of relative speed is conclusively settled. The advantage which a natural posture offers and secures to the vertical writer must guarantee a higher rate of pen-travelling. The slanting writer is heavily handicapped and comes in a very bad second. (See pp. 23, 121, &c.)

Furthermore it is found that the strokes which a vertical writer makes in his movements with the pen are quite as easy as those made in the sloping style and far shorter, for careful calculations show that the ordinary oblique writing necessitates the pen moving over 20 to 25 per cent. more length of outline than Vertical writing of the same size, that is between the same parallels, and that it accordingly occupies that amount of extra time. A reference to Fig. 13 will make this apparent. Approximately the lengths of the continuous letters in the five lines are as 6, 7, 8, 9 and 10.

Now unless it can be shown that ten units of work require no more time to execute or perform than six units of the same work it is obvious that Upright Penmanship must be more rapid than oblique. It is not needful to say that six miles can be much more speedily covered than ten miles, and six inches than ten inches.

This being so, the amount of waste—waste of time (of labour and material also as will be presently proved)—that is going on in the caligraphic world is a very grave consideration.

Gratifying corroboration of this proposition has reached us from the continent where extensive experiments have been made

(in Vienna and elsewhere) to thoroughly test this question, a remarkable coincidence in the figures being the outcome. Dr.

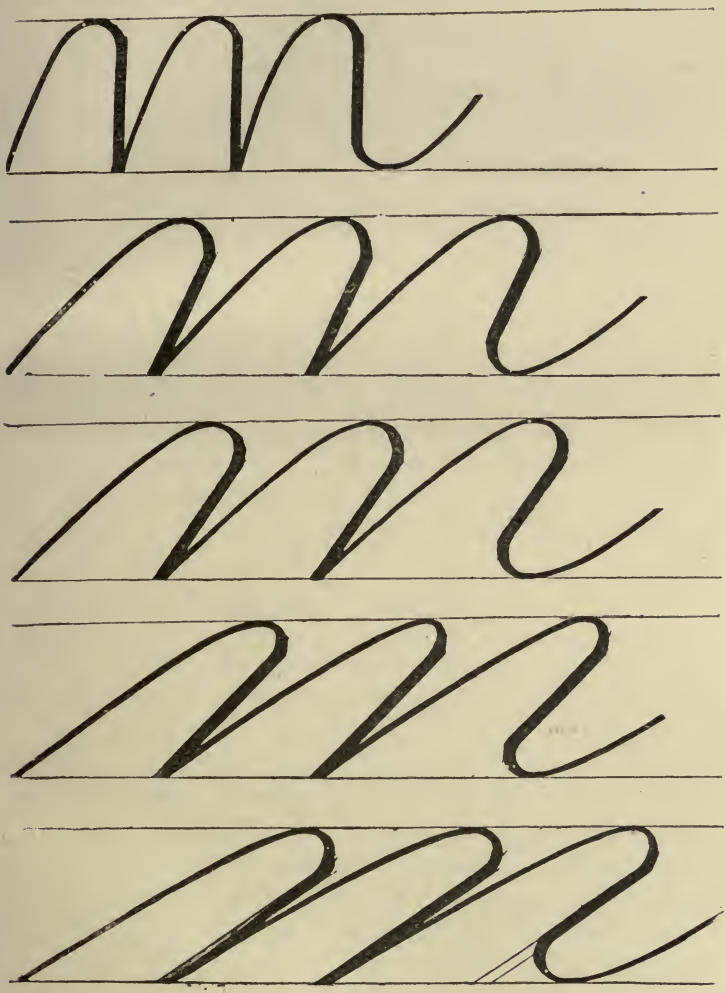


Fig. 13.

Scharff conducted several contests between the two classes of writers, and states that vertical writers—the best—took 24 minutes to copy out a poem which the best sloping writers finished in 30

minutes. This ratio is about the same as that shown in the figure namely 3 or 4 to 5.

From the printed Report of the Vienna Commission the figures were slightly different, "the best verticals were $\frac{1}{5}$ sooner or quicker than the best slopers." These experiments in Vienna were conducted by Drs. Schubert, Bayr and others.

Such a slight variance in the ratios may be and probably is owing to the short time the verticals have been writing that style. It is hardly just to institute a comparison between boys say of 15 on the one hand who have written sloping all their lives and those who—of the same age—have written vertically only one or two years of that period. When classes in the upper standards (the 5th or 6th year of school life) that have written vertically from the first are available, then and only then can an impartial and fair test be prescribed. Nevertheless, when under the conditions, which to Vertical writers are so unusually severe, Upright Penmanship is able to establish its superiority as to speed by a ratio of 4 to 5 or 5 to 6, the ultimate advantage to be gained by adopting the vertical system cannot be for a moment called in question.

Economy in Space, &c.

Vertical writing speaks for itself so palpably and so emphatically in this respect that it is unnecessary to linger long on the question. The sprawling, straggling scribble so common in the oblique style becomes compact and characteristic—full of individuality—in the upright. Let anyone try the experiment for himself. After repeated and various comparisons of Copy Book headlines it is ascertained that for the same or similar sized writing the vertical will yield from 30 to 60 per cent. more matter in the same space-length. Several books being tested page by page the surprising disclosure was made that where the sloping gave 20 to 25 the upright supplied 35 to 40 letters. A glance at the reduced facsimile (Fig. 14) of an ordinarypage in the Upright Penmanship Copy Books will convince anyone of the advantage to be secured in space and compactness by the adoption of that system of

writing. Then as to economy in ordinary correspondence and manuscript what clergyman, lawyer, merchant, student, clerk, has

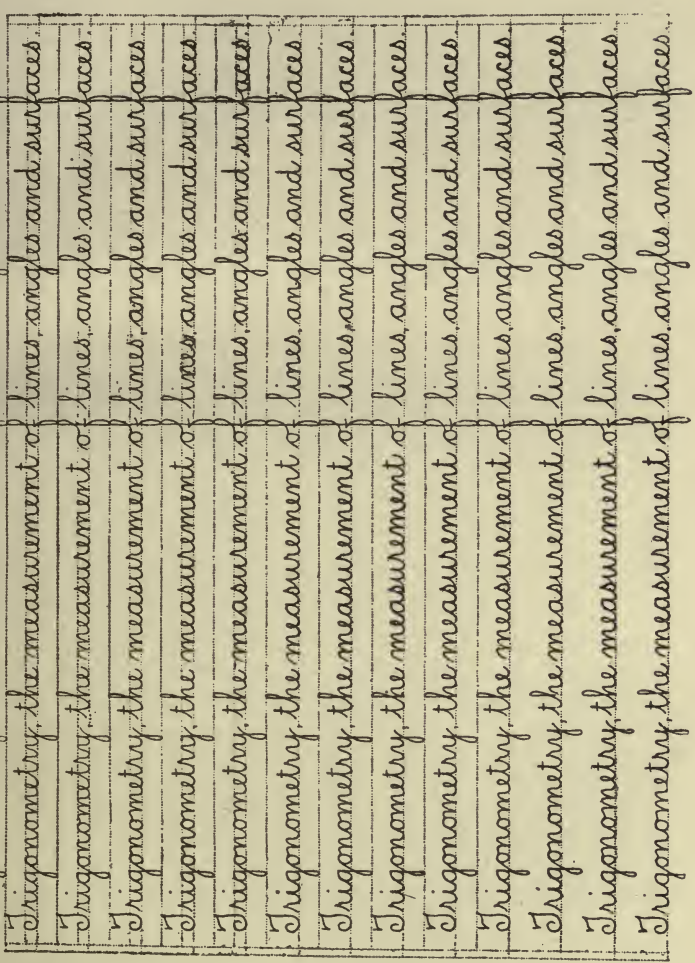


FIG. 14.

not resorted to the Vertical Style again and again when wishing to compress his writing into the smallest possible space?

The truth is that sloping induces and begets sprawling whilst the upright demands contraction. Take as an independent test a batch

of letters brought any morning by post, counting the letters and words in an equal number of lines of about equal-sized writing in each style. Two results will ensue. The Vertically written letters will be more legible, and secondly they will contain about 40 per cent. more matter in the same space. In a word there is no question on this point of economy, as its strongest opponents have conceded the claim and advantage of Vertical Writing without an exception. Finally it must be remembered that such an economy in time and space carries with it a corresponding saving in both labour and material so that the advantage thus gained is one of great value to the community at large.

Ease in Learning, Teaching and Producing

The last quality or standard of comparison we have to examine is one of the most interesting—first to juveniles, next to teachers and thirdly to the general public. How do the several styles affect the pupil or learner, the instructor and the ordinary writer? We take the first two together. In all schools and educational establishments where any profession of teaching writing is made, the one great complaint is the insuperable difficulty in securing the right slope and in obtaining a uniform parallelism of slope. But there is an equal difficulty with the writers or pupils themselves, for not one teacher in a hundred is successful in obtaining satisfactory results. First there is the unnatural position of the body, sideways to the desk; next there is the awkward position of the arms, pressed close in to the side; then the hand must be twisted outwards, the pen must point inwards or over the shoulder of the writer and when all this is posed fixed and obtained (we would ask when is it obtained) then the worst trouble of all has to be faced, viz., to arrange the writing, determine its angle of obliquity, write at that angle, and maintain the angle uniformly throughout the page.

But it is a notorious fact that children naturally do and certainly will write vertically whether their teachers sanction it or not. Is it not true that pupils almost uniformly tilt up their books

to an angle sufficient to give verticality (optically considered) to the down strokes, and will hold the pen as vertical writers hold it in spite of the repeated commands of their teachers to the contrary?

A pupil is restless and changes his posture or inclination to the desk and his Copy Book faithfully records the incident by a painfully apparent break in the parallelism of the writing, or he tilts his book or straightens it and the same undesirable phenomenon is presented.

In Vertical Writing none of these difficulties and anomalies distress the teacher, none of these absurdities vex the bodies and souls of our pupils.

There is no artificial or abnormal positions of head, trunk, arm, hand and pen to teach and secure, for every child will naturally assume the right posture; the book lies evenly on the desk and the writing follows the one direction of the vertical instead of the legion of angles of direction peculiar to and inseparable from the oblique. The difficulties of both teacher and pupil are reduced to the lowest and so far as they can be, writing and the teaching of writing are pleasant factors in the daily routine.

Of equal value is the consideration that this greater ease is carried outside and beyond the mere teaching and learning of the art. To the Vertical Writer no weariness or "writers' cramp" will ensue from any ordinary or even extraordinary exercise of his art. The task of writing is proceeded with under the best conditions possible and thus it comes to pass that Upright Penmanship is not only taught in about half the time that the oblique style needs, but that it makes a much smaller demand upon the energy or working power of the ordinary writer to produce.

Another element in Vertical Writing bearing on the same point is that pupils can approximate very closely to the perfection of an engraved Headline, whereas this is impossible with the Oblique Style, unless to boys and girls of exceptional imitative and mechanical ability. The effect of this possibility upon the minds of children is simply incalculable. It is stimulative to an

astonishing degree as the young aspirants for caligraphic fame write with a Consciousness of Power that carries them on to certain victory but that is entirely absent when writing in the sloping style. The outcome of such a stimulus is as surprising to the scholars themselves as it is gratifying to their teachers.

A few photographed specimens of such work by pupils from 8 to 15 years of age, and having had from one to three years instruction in elementary and secondary schools, are here reproduced (see Figs. 15 to 22). It will be observed that the same wonderful uniformity, and imitation are exhibited by the youngest and the oldest alike, and also that the parallelism throughout is equally perfect, the vertical being maintained without the slightest deviation therefrom being apparent.

Reviewing the respective points in our argument we have found it demonstrated that Upright Penmanship is far more easily Read, Taught, Acquired, and Written; that it can be rapidly traced; that it is far superior in all Hygienic principles; and that in all the essential qualities which distinguish the best style or System of Handwriting it is undoubtedly superior to the Slanting method and to all forms of oblique caligraphy.

So far then, as to the direction of the writing that shall be taught, it is undeniably proved and unanimously conceded that it must be **Upright** and not slanting or oblique.

The advantages of Vertical Writing may be conveniently tabulated in the following form which we think covers most of the ground in the discussion. They are classified under four general heads.

(A.) Hygienic

1. The Chest: Requiring an erect posture and therefore no compression of the Chest-walls.

2. The Eyes: Exercising both eyes equally, entailing a minimum of effort thus avoiding both weak and short sight.

3. The Hand: No Writers' Cramp from twisted wrist as in Sloping Writing.

4. The Spine: Demanding a natural posture, entirely avoiding the painful distortions so productive of Spinal Curvature in Sloping Writers.

(B) Caligraphic

1. Maximum Legibility: Proved both geometrically and optically.

2. Maximum Excellence: Proved by universal experience of teachers.

3. Maximum Individuality: The greatest scope for variety being afforded.

4. Maximum Uniformity: The vertical downstroke requiring the minimum amount of imitative ability.

(C.) Economical

1. In Time: From 30 to 40 per cent. saving, Vertical Writing being more quickly written, read and taught than any slanting style.

2. In Labour: Vertical Writing is the easiest to write and easiest to read.

3. In space: From 30 to 40 per cent. saved, as Vertical Writing is the most Compact that can be produced.

4. In Expense: Involving not only less Time Labour and Space but requiring about half to two-thirds the amount of Material used in other systems.

(D.) Educational

1. Organisation: The writers are arranged in a more orderly and systematic manner.

2. Discipline: The tendency to nudge or jolt is removed; sprawling is avoided; much disorder is thus prevented. Talking is more difficult, more easily detected and more easily suppressed

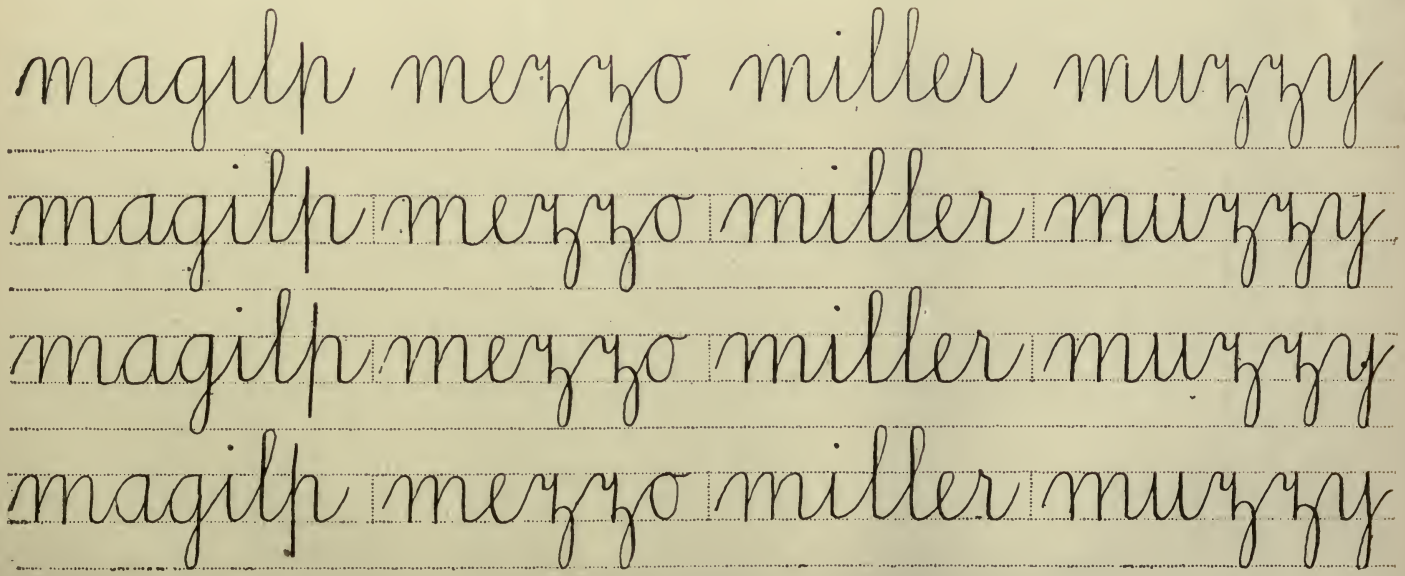


Fig. 15. By a Boy of 8 Years. (National School)

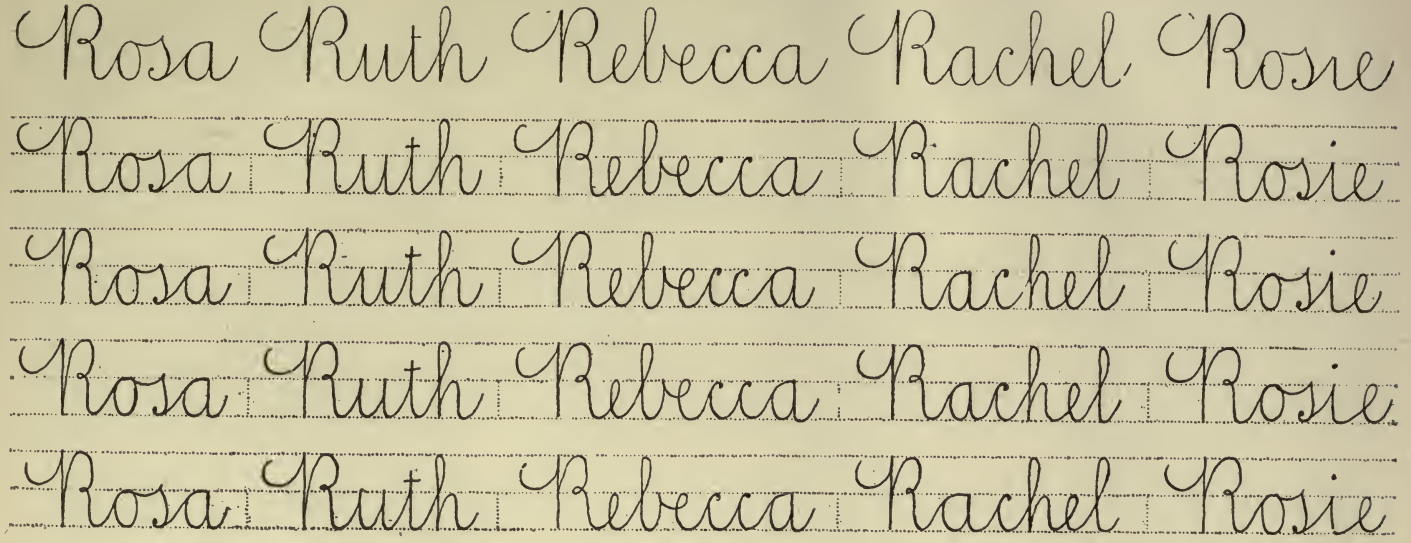


FIG. 16.—BY A GIRL 9 YEARS OLD (Secondary School.)

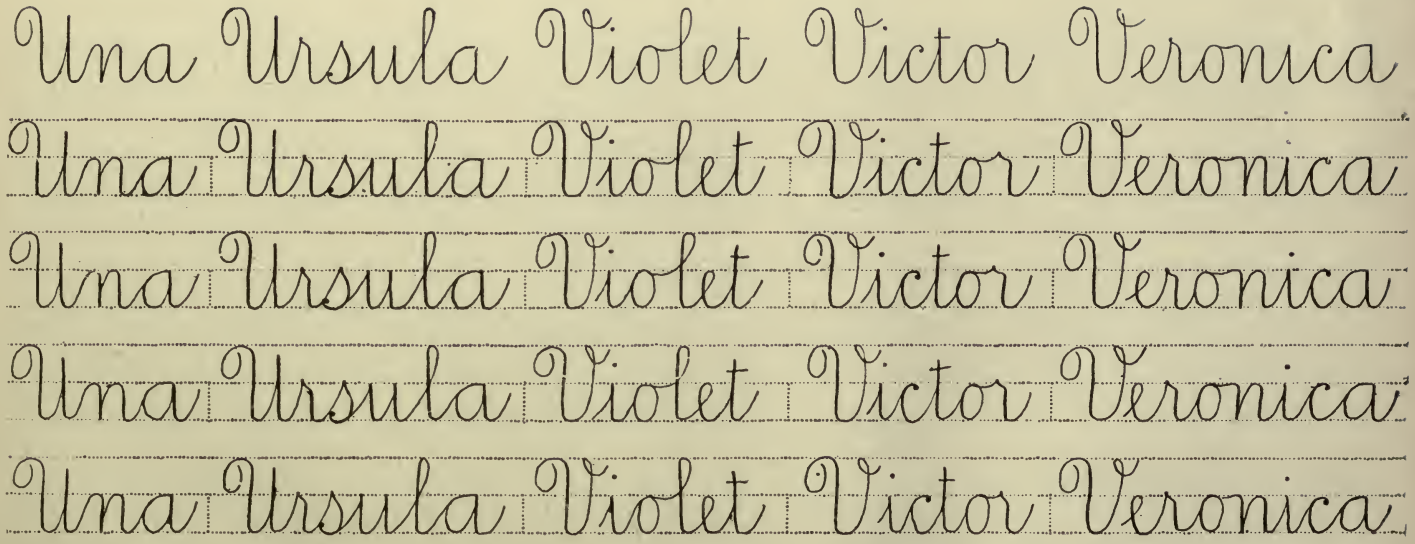


FIG. 17.—BY A BOY 10 YEARS OLD. (National School.)

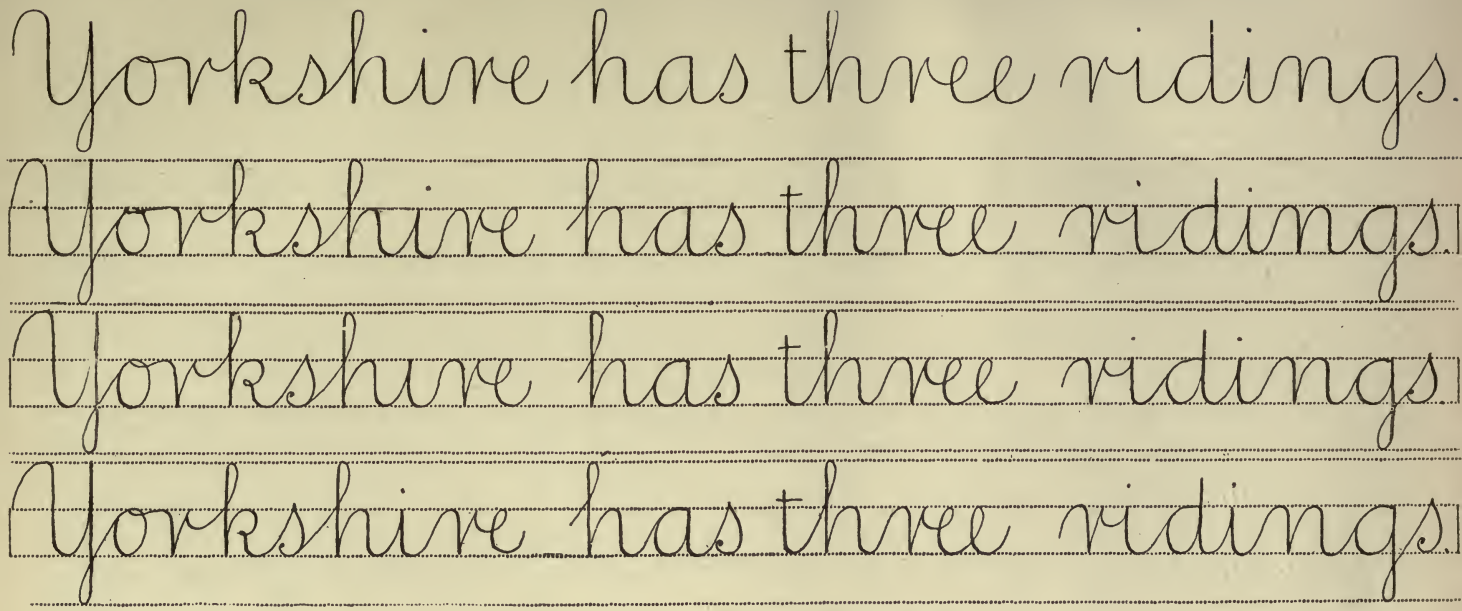


FIG. 18.—BY A GIRL 11 YEARS OLD. Secondary School.)

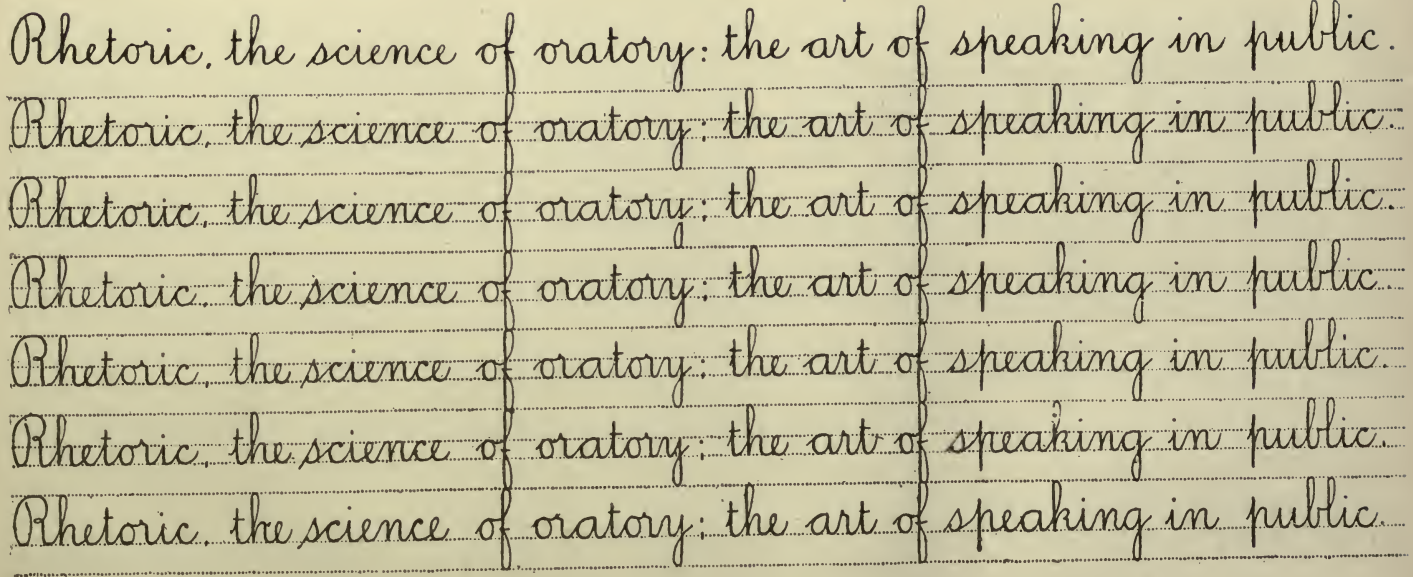


FIG. 19.—BY A BOY 12 YEARS OLD. (National School.)

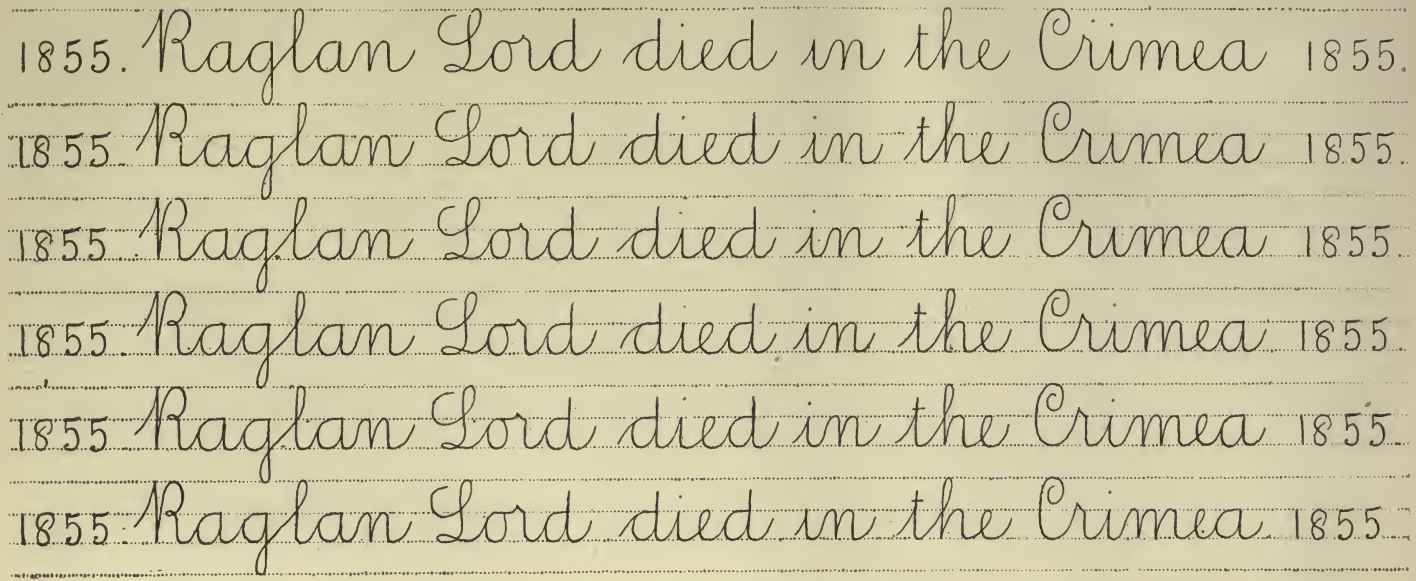


FIG. 20.—BY A BOY 13 YEARS OLD. (Secondary School.)

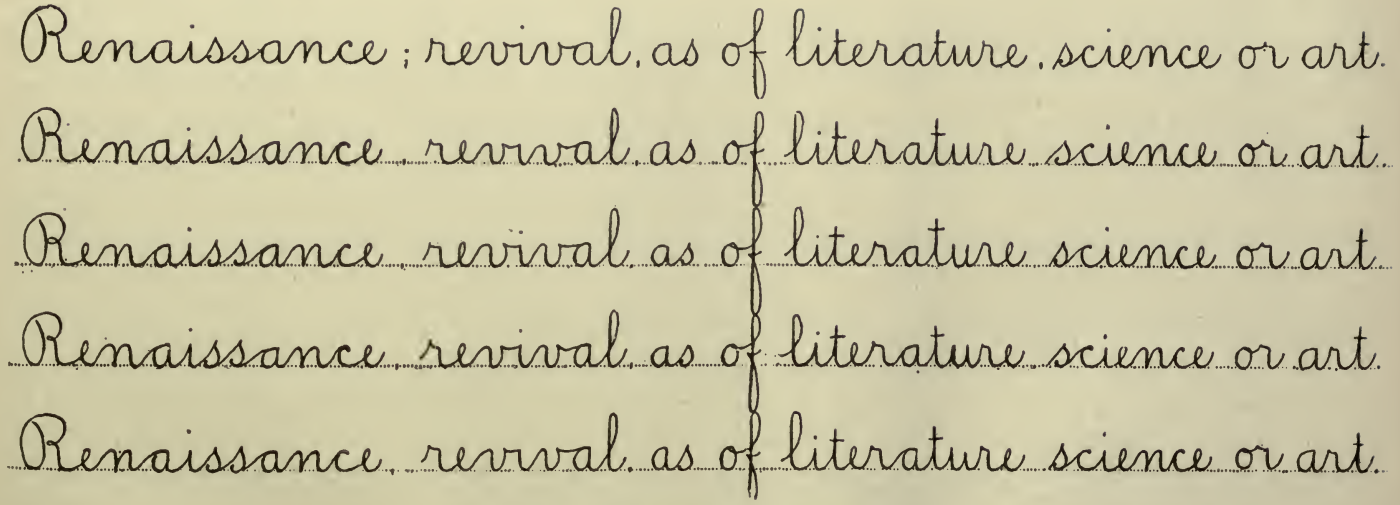


FIG. 21. — BY A BOY 14 YEARS OLD. (Secondary School.)

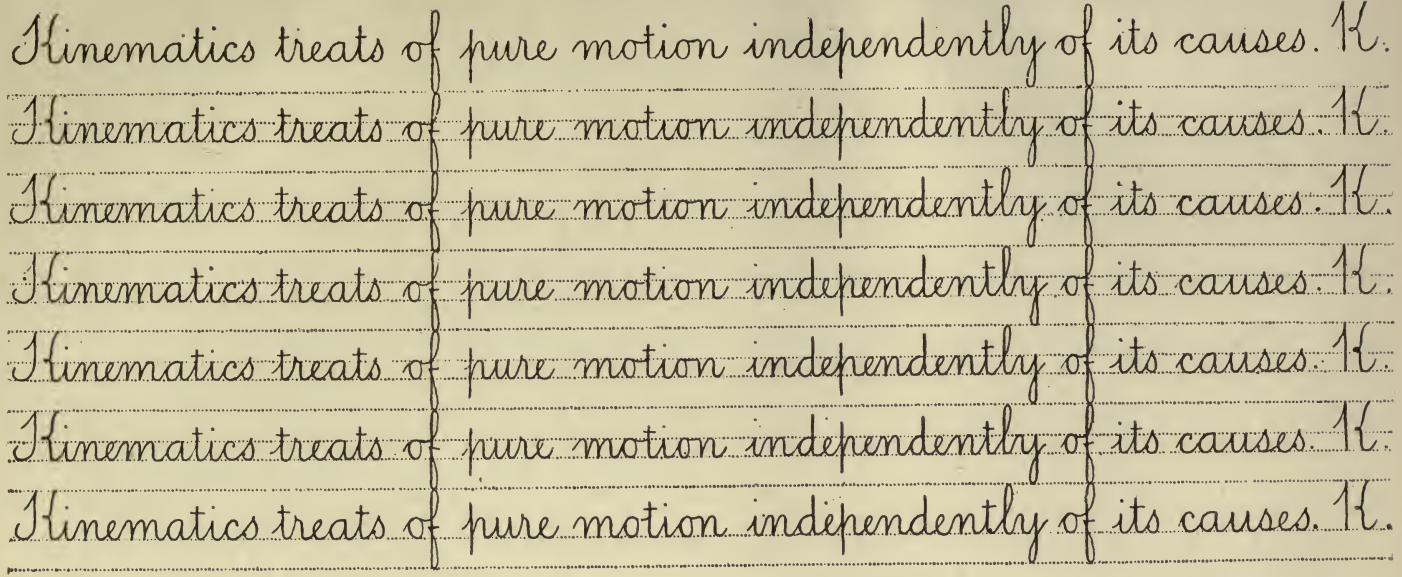


FIG. 22. BY A BOY 15 YEARS OLD. (National School.)

CHAPTER IV

SIZE, THICKNESS, CONTINUITY, ETC., OF WRITING

HAVING determined the direction that our Writing shall take, it remains to settle such matters as the size, thickness, closeness, roundness and continuity (or otherwise) of the strokes, letters and words, with special and final reference to their shape or outline.

THE SIZE

We are not here concerned so much as to the size of ordinary Script writing as with the size of the letters and words which those who are just learning to write in our schools shall be required to imitate. Individuality will ever assert itself in limiting the size of every day caligraphy, but it is a matter of no small importance whether beginners ought to commence with a very large bold style, heavy and unwieldy, or with a small light hand quite the reverse. The books afford us very little assistance ; Manuals of method differ ; Text books on handwriting vary or ignore the question altogether ; and Copy Books are still more bewilderingly diversified. Who is to decide ? Is it preferable to begin with the largest sizes and styles found in Fig. 3 (page 4) or with the smallest in Fig. 4 (p. 5) ?

There is a startling contrast between the extremes, and the world is to believe that each specimen is the best, the orthodox one. Many are found who advocate the large heavy writing, their argument being that it stretches the muscles, imparts freedom and elasticity to the fingers, and secures a correspondingly desirable elegance and boldness to the style. The reply to this by those who prefer a much smaller size is, that by commencing with such a large hand for little fingers and afterwards gradually

diminishing to small hand for fingers of a larger growth, not only is nature outraged, but the progress of the juveniles is seriously retarded in the elementary stages; and furthermore the mind is demoralised by the repeated but fruitless efforts to attain the unattainable, for the infantile fingers can never succeed in imitating the Copy, and it is not until years after, when a child's fingers have acquired both length and command of the pen, that he is, if indeed ever, able to reproduce with some degree of satisfaction the exceedingly difficult combination of hair lines, tapering curves, and long thick strokes of his elaborate Copy.

But again, such abnormally large-sized writing can only be produced by what is called the whole-arm movement, a movement which is now condemned by the great majority of authorities in Caligraphy, because of the wasteful expenditure of energy which it entails on the writer. And this whole-arm movement is next to impossible and impracticable with young children. Juveniles cannot write in a copy book as they would draw on a blackboard. Anything beyond a finger and thumb movement is to be deprecated with beginners and certainly with pupils at school, as it is a hopeless task to attempt it.

Passing therefore from these, what about the smallest size submitted in Fig. 4, p. 5? It can be successfully urged against this specimen that the size is too small for a child of tender years to appreciate, and that it is vain to expect anything like a bold free style from those who begin with such a diminutive size. A good medium hand is to be preferred to either extreme, and is productive of the best results.

It seems absurd to imagine that children just learning to write can use the pen with such dexterity as to produce even fair imitations of a word like "Permutation" or "Workmanship," and on the other hand such letters as those in the smallest size require such delicacy in their formation that they present almost equal obstacles. A fair medium size where the strokes and curves are bold enough to strike the eye and present an individuality of their own are more easily grasped or apprehended and

are large enough to ensure freedom, and still small enough for the tiny fingers to manipulate without much effort.

Thickness.—With reference to the thickness of the down-strokes it may be asserted without hesitation that all heavy writing is to be condemned. On the sound principle that a child should be taught that which has to be utilised in after life, heavy or ponderously thick down strokes are ruled out of court, since the easiest quickest and best writing is that in which there is a minimum of distinction between the up and down lines.

Indeed it may be said that with the majority of writers **no effort whatever** is put forth to thicken the down strokes, what extra body there is in them being due to the facility with which the parts of the nib separate when tracing a down stroke with even the weight or normal pressure of the hand upon the pen. The best headlines then should have as little thickness as possible : of necessity the larger or longer the stroke the more body is naturally given to it to render it steady and even.

Let the aim be to secure a minimum of thickness since every additional degree of intensity only demands an extra and wasteful expenditure of force that speedily wearies, and a profusion of ink that frequently smudges or smears. A further reason in favour of thin or light as opposed to thick or heavy writing is found in the fact that only an insignificant—we might almost say fractional—percentage of pupils can ever hope to become proficient in writing the heavy style, it being remarkably difficult to accomplish. If partisans of the heavy downstrokes be yet unconvinced we can produce a still more potent reason against them and it is this, that of all things, thick writing is most conducive to Writer's Cramp. The more muscular force is exerted in the act of writing the sooner those muscles are fatigued and strained, and it is self evident that thick writing expends or requires much more energy than thin. We confess our inability to discover where the virtue of thick writing lies ; the light-stroke writers are quicker and better in their work ; and the thin writing, or the caligraphy that consists of one almost uniform thickness, is quite as legible as any other Teachers should teach a free light style of writing, guarding their

pupils against hard downstrokes, the result will then be better work and less labour.

Junction.—What must have often struck the reader as a serious anomaly in the prevailing styles or series of Headlines is the mode of joining the letters of a word together. The general rule has been to join all letters exactly in the middle and this rule necessitates the lifting of the pen at nearly every junction and frequently once or twice in the formation of a single letter. Now it may fairly be argued that as Continuity in Writing is one of the pre-eminent elements of speed: a system of connection which involves the incessant lifting of the pen must be diametrically opposed to such continuity, and therefore absolutely inimical to a maximum of rapidity. Consequently the principle of joining both parts of letters and whole letters at the top and bottom is now fast superseding the central junction just referred to, and thus Continuity and the highest speed are both attained.

Even as early as the year 1815 a Writer on this subject (G. B. King) says in a note "**Every word should be finished "before removing the pen,**" he thus recognised the full value of the principle of Continuity for rapid writing. A wise teacher will not only cultivate this essential by and through the ordinary Copy Book, he will give the more advanced scholars frequent exercise in writing entire lines of words without lifting the pen, save to begin a fresh line. It cannot be too strongly impressed upon our teachers that the laws and rules which determine shape, size, direction and junction of strokes and letters are not fixed and immutable but arbitrary and conventional; that at any rate the caligraphy fantastic and ornate as it certainly was, of a past age must not dictate to us of the present: the exigencies of to-day must modify the writing of yesterday and determine what it is to be.

As an illustration of the pernicious effects of the non-continuous principle I would instance one letter received recently from a high Educational Authority. The address on the envelope consisted of nine words containing altogether forty-nine letters. The pen **should** have been lifted nine times; it was lifted not less

than **fifty-four** times not including dots, crosses and punctuation. The letter contained seventy-seven words and exclusive of dots &c. the pen should have been lifted only seventy-seven times. Can it be credited that it was lifted from the paper **Three hundred and Fifty times,** and that it thus made three hundred and fifty separate strokes? Calculate, if it be possible, the labour involved in those hundreds of superfluous acts; and when it is added that the gentleman in question is a most voluminous writer and author and that his correspondence is immense the reader will be astonished to learn that he still survives in remarkably good health. But spite such rare and phenomenal exceptions as these Continuous writing is winning its way and rapidly becoming universal.

Compactness.—Writing in order to be clear and legible should not be too compact or closely written. A moderate space between the letters and between their several parts must be observed otherwise an undesirable indistinctness will ensue seriously detracting from the excellence of the penmanship. At the same time a series of Headlines should afford ample material for practice in both the open and close styles primarily the former as if the latter be indulged in too often a cramped style will be cultivated that will be very difficult to cure. The curves, hooks, links, crotchets and loops should all be bold and round not narrow or assimilating to what is known as Ladies' Angular hand. As to the general shape of the letters short loops, finals and simple capitals must obtain. Elaborate flourishes, ornate curves, graceful loops and elegant finals belong to the department of Ornamental Penmanship now nearly obsolete, they are altogether inappropriate to any system of plain Handwriting. The object of every teacher of writing should be to have each and every letter formed with the shortest line or lines possible, consistent with perfect shape and legibility, as not only will the labour of teaching and learning be thus reduced to the lowest possible but many other equally desirable results will be brought about.

When considering the shapes of letters it will be wise to specially examine a certain number of them about which ideas are both vague and various. For instance shall we have in a course of writing

lessons or copies two kinds of **l, h, b, k** and **f**? These letters being generally made in large hand without the loop but in small hand with it. Common sense replies Certainly not! Why should we? The rule is not consistently observed in the first place, for the lower loop letters remain unchanged, and the letter **f** is sometimes deprived of its upper loop and at other times of its lower. It is more easy and natural to make a loop, uniformity therefore should rule the question and teach writers that shape of letter they will adopt in their future life and practice. How difficult too, if not impossible it is for young children to draw those tremendously long and rigidly right lines! How seldom they ever do it! Fig. 23 is an average specimen of the strokes which infantile fingers are supposed to make. In conclusion it should be noted that in actual script work neither the size nor the shape of the letters under consideration is ever required. Taking the small letters we observe that **r** has been the cause of much controversy. Shall it be the ordinary script form or the Roman type outline (see p. 95, Fig. 27)? To hear the several champions hold forth on the claims of their respective outlines one might imagine that there were numerous vital questions involved in the discussion, whilst in fact there is nothing but the most trivial of differences and the most imperceptible of advantages on either side. Both forms are good as initial, medial or final, and what the first or script form boasts of in the matter of speed—for it is undoubtedly more quickly made than its rival—is counteracted to a great extent by its inferiority as to legibility when in union with certain other letters. The very absence of any weighty reasons will we fear prolong the agitation to an indefinite extent if indeed it does not prevent entirely any positive and ultimate decision.

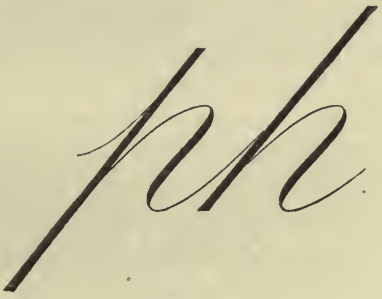


FIG. 23.

Two forms of **e** are also practised, the script and type outlines (see p. 95). There can be no hesitation here as to which is preferable. The reduced capital may be more ornate but it is neither so legible nor so rapidly written. It should consequently be discountenanced and discarded in favour of the ordinary and simple form which assimilates so perfectly in conjunction with every other letter of the alphabet.

Another letter to be noticed is **s**, and again the minimized capital or type form has been introduced as a rival to the script and more easily written outline. Of course it is a mere fanciful preference that would use the type **s**, which whilst it gives a certain artistic effect to the style retards the progress of the writer to a rather serious extent. We should pronounce unhesitatingly for the ordinary script form of the sibilant and we think we carry nine hundred and ninety-nine writers out of every thousand with us. Just a word "en passant" as to the large number of persons who are in the habit, unfortunately, of making a particular shape of letter the test of a System of Handwriting. Incredible as it might seem many teachers have denounced Upright Penmanship **solely** because some special pet form of capital or small letter was not found in the Series of Headlines of the Copybooks. Or on the other hand because some outline of a Capital Letter which was obnoxious to them had been introduced.

The small letter **s** which we have just examined has been the sole basis for a decision between Sloping and Vertical Writing. To judge any system of Handwriting by such insignificant tests is both irrational and unkind.

Another vexed question to which we might refer is the varying heights of the long letters. Shall there continue to be three or four sizes of these long letters, or shall there be only one? Common sense, science and consistency would say only one, and custom clenches the argument, for it will be found that in the current hand of our every-day life all the lengths reduce themselves to one almost universal height. When this is so, where is the necessity or advantage in teaching three different sizes? Certainly the labour of teaching would be diminished if only

one height or length were maintained and that of itself would be a much needed and heartily welcomed relief. In theory and practice therefore one and only one height is recommended for all long and looped letters whether above or below the line. It may not, and it is to be feared will not, be easy to attain this as so many series of Headline Copy Books exist with diversified heights, but if future compilers of such books and teachers of writing would combine and co-operate there would be little difficulty in bringing about the desired reformation.

In recapitulation, to sum up the essentials of an ideal handwriting that shall fulfil the requirements of Hygiene, the demands of Caligraphic canons and the needs of a mixed community it has been proved that such writing must be Upright, Continuous, Simple and Plain, with short loops, and a minimum of thickness. If such a style and system be generally adopted and taught there will result a generation of writers wonderfully superior to the present generation of scribblers whose penmanship will be a credit instead of a disgrace to their country.

By minimum of thickness it must not be understood that the very thin hair lines, quite impossible of reproduction with a pen, are meant—as head lines should present an imitation or reproduction of actual pen writing. The very delicate engraver's work proves discouraging to the pupil because impossible of reproduction.

CHAPTER V

HEADLINE OR BLANK COPY BOOKS—WHICH?

THE subject of this Chapter is one of the first importance. What kind of Copy Books shall be employed? Are they to be Blank copying books or are they to have engraved headlines? There is almost a consensus of opinion in favour of the latter, an almost endless variety of Headline Copy-Books testifying to the superiority which in the judgment of the great mass of teachers is to be found in the books provided with these set copies, one or more on each page. Nevertheless during the past few years an agitation has been encouraged to establish the use of Blank Copying Books, and this agitation has been fanned and fostered by certain officials in the Educational Sphere who shall be nameless.

The Theory proposes that writing should be taught exclusively from the Blackboard and that children should use plain-ruled blank books instead of the Headline Copy Books hitherto in vogue. "**Blank Copy Books and Blackboard Teaching**" is the cry. Exception must at once be taken to this watchword phrase as it is ambiguous and delusive, because it insinuates that Blackboard teaching is as scarce an element in to-day's system and practice as the Blank Copy Books are, which is contrary to fact. Every teacher knows that Blackboard demonstration and illustration are an essential factor in existing methods of teaching writing with Headline Copy Books. Every Training College inculcates it. Every Educational Manual imperatively prescribes it, and every true teacher to the full extent of his ability and opportunity practises it. In this chapter we have not to consider the question of Blackboard instruction at all, that having been settled by universal consent long long ago, but we have to investigate the merits of

Blank Copy Books as opposed to Headline Copy Books and to answer the query with which this chapter began viz. : "What kind of Copy Books shall be used?"

So far as can be gathered from external sources the chief if not the only reason urged for the adoption of Blank Books is that under existing conditions, where Headline Books are adopted, the temptation to neglect Blackboard instruction is too strong for the great body of overworked teachers, particularly assistant teachers, to resist. It is said that with Headline Books the teacher is too often satisfied with merely having the books distributed to the class and after starting the pupils to their work leaving them to their own devices and resources for the whole of the interval devoted to writing.

Assuming (for the purpose of argument) that these premises are true it is not certain that the conclusion is much to be deplored as thousands of teachers would not consider such a mode of teaching as an unmitigated or serious evil. It is asserted moreover that the only way to ensure faithful discharge of duty in teaching writing is to provide nothing but blank Copy Books for the scholars to write in. Assistants will then be compelled to utilize the Blackboard (at least so far as to set the copies) and thus children will have the immense advantage of seeing the writing actually produced, will observe the modes of junction and will also witness the tracing of the several complexities of formation which so painfully abound in our script alphabet (at any rate so far as they choose to attend to it). Other reasons for the proposed substitution of Blank Copying-Books are however to be found and will be fully discussed in the proper place. Meanwhile it will be advisable to look a little more closely into this proposed security against dereliction of duty on the part of the teacher, and into the incalculable (!) and otherwise unattainable benefit on the part of the scholar. It certainly would seem to the ordinary intelligence that if any given teacher were either too indifferent or too busy to use the Blackboard in class when enjoying the substantial aid of Headline Copy Books, it will be still more unlikely or still more impracticable for him when deprived of that aid and when

burdened with the extra duty of compiling, arranging, and setting the copies himself. Surely it is difficult to conceive how when a teacher through overwork is obliged to omit certain items, we are to secure the performance of those items by increasing his work and multiplying its details. Is it not reasonable to conclude that the assistant who was previously content to allow his pupils to imitate or parody the Copy Book headlines without note, comment or reference to the Blackboard, as an effective adjunct to his teaching, will be more than satisfied that his duty is performed to the full when he has hastily or otherwise traced on that Blackboard the writing copy for the day? Obviously there is not the smallest inducement nor guarantee in the projected innovation that any teacher will be one whit more conscientious or even punctilious in his Blackboard demonstration, but there evidently are for many reasons positive and stronger temptations than before to entirely disregard the responsibility.

But what of the benefit to the pupil in seeing the master (or mistress) write the Copy on the Blackboard? If there is any real advantage in such a sight it is just as available and profitable in conjunction with Headline Copy Books, and can therefore be employed equally in both kinds of writing books. It is not difficult to show however that the total absence of this exaggerated boon is hardly a material loss to the scholars. The argument on these lines may therefore be summarily dismissed as being worthless in advocating the claims of Blank Copying books.

If the new Candidate for public support be more particularly examined the investigator is surprised at the number of objections and defects which immediately start into view, any one of which in itself is or ought to be sufficient to determine the issue.

Imperfect Models or Copies

Of course, and evidently, the first and one of the gravest defects in Blank Copying Books is the absence of Perfect or Accurate Copies and the presence of nothing save Imperfect and Inaccurate Models. Pupils are to have plain-ruled books in

order to fill them up with approximate imitations of the defective Blackboard models. They are never to see anything outside these blank books but the very imperfect writing—often indeed little better than caricatures—of their respective teachers. They are never to see anything inside their books but their own faulty and distorted outlines. Nothing from cover to cover but indifferent, crude and in most instances wretchedly bad writing. Looking over the pages of his book, as the pupil is sure to do again and again, he sees no standard of perfection to counteract the demoralising influence of a continual familiarity with that which is essentially inferior—and inevitably the writer's own Scrawl becomes his ideal which the occasional glimpse of his teacher's flourishing on the Blackboard, when setting the Copy, entirely fails to remove or destroy. And **when** may we expect a child to rise above his ideal? A remarkable rejoinder is here met with. "The boys or "girls will be forced to look at the Copy on the Blackboard when "writing in blank books. **Whereas** in Headline Copy Books "pupils simply copy the Headline once and then proceed to "imitate their own handiwork, making mistakes, repeating them "and growing worse and worse until they reach the last line in "the page.* When they use blank books they cannot perpetrate this "abomination. In blank books the writing will improve line by "line down the page, and we thus get rid once and for ever of "that annoyance to teachers which results in such disastrous "**Scribble.**"

Is not this the ne plus ultra of nonsense or obtuseness? How shall we, how **can** we reply to these statements? Is there any conceivable cause why a lazy or stupid child, who will not take the trouble to look at and try to imitate a headline under his very eyes and only two or three inches from his pen, will exert himself still more energetically to refer to and try to imitate a copy ten to twenty feet distant from him? Is there not rather every reason to conclude, that a page of blank book writing will, as it proceeds downwards, deteriorate in a much greater degree than a page of Headline writing, where the writer can hardly avoid looking at the perfect model times and again whilst the lines are being written?

* Reproduction or imitation of pupil's own writing can be entirely overcome by using the *writing pads* which are designed especially to overcome this and other difficulties in teaching.

If it is proposed to supply a panacea for this disease of page degeneration by withdrawing the only sentinel that keeps guard over the page, by removing the only standard of comparison contrast and appeal from every leaf of the Copybook, by getting rid of the only check—ever present check—upon such deterioration the remedy is worse than the disease and is devoid of the most essential ingredient in such specific viz. a perfect Model to Copy from.

However let us enquire what is offered by way of substitute for this Perfect Model? What does the Blank Book System offer in lieu of a perfectly engraved Headline? Blackboard Copies, written, sketched, or scribbled by Principals, Assistants, Pupil Teachers, and Monitors! When it is an admitted fact that about three-fourths of all the teachers in the United States are really unable to write a creditable, much less a faultless, copy on the Blackboard where are the specimens of good caligraphy to come from?* Until the System of Upright Penmanship becomes general there will not be the remotest possibility of our teachers becoming qualified Writing Masters. Why then agitate for the impossible and expect from our teachers what they are utterly unable to supply? No rational mind can imagine that the faulty copy drawn in chalk on a Blackboard can or will be accepted as an adequate **substitute** for the carefully engraved copy in the Headline Book. Scores, yea hundreds of these Blackboard copies, written by every rank of teacher, have come under our observation, and we have no hesitation in saying that in the large proportion of them no Inspector would pass them as fair. One or two in every score might possibly approach to the regularity and accuracy required in a writing Copy, but this proportion is more fanciful than real. Is the principle underlying this innovation tolerated in other branches of a school curriculum? Do we adorn the walls of our School-rooms with base parodies of geographical, botanical, and zoological subjects limned by the veriest tyros in art?

Do we furnish art classes with drawing copies, or physiological

* See note, p. 72.

diagrams, roughly and hurriedly outlined by mere beginners or untalented novices? Never! Do we not the rather take infinite pains to secure the brightest, the truest, and the best maps, diagrams, and illustrations which shall have been produced by our finest experts or specialists in their respective departments?

Why then, in a subject that pertains to every man's daily life, is it suggested to offer nothing but second- or third-rate models, the creations in great part of ignorant, inexperienced or unqualified individuals for our children to imitate? A system of this kind will inevitably lower the standard of penmanship and begin a decline in the art of caligraphy; for the removal of an established and high standard, and the substitution of an imperfect and inferior standard can only be followed by one result, and that a fatally disastrous one.

Further, the advantage of seeing a Master (even a good writer) write a copy on the blackboard is almost purely chimerical, for unless the line is a small hand copy the chalk will not and does not make the strokes thin and thick to meet the exigencies of the writing, and the strokes have to be painted or thickened by repeated applications of the crayon, which utterly destroys the analogy between the two acts. Then the teacher does not hold the chalk as the pupil holds the pen, nor does he write the Copy through in the same way that they are instructed to do. He is standing, they are sitting; He writes or draws, erases, reproduces, repeats, repairs, thickens and revises the whole after being once traced, they are forbidden to do any of these things: where is the similarity or the help? After the most elementary stages there exists no necessity whatever for this particular kind of Blackboard instruction. It is not the setting of a Copy nor the seeing of a Copy written that is needed, but explanation and illustration of the Copy after it has been written. The Conclusion is irresistible looking at the question from every standpoint; that the absence of a Perfect Model and the substitution of a Hybrid having all possible degrees of disparity to an artistic and scientific original, must be fraught with consequences fatal to any satisfactory development of the science and art of handwriting. Contrast the

projected state of things with that which obtains under the Headline Copy Book System, where the highest possible standard of engraved Models is aimed at by Publishers and Teachers alike, and where a praiseworthy rivalry is perpetually evolving new sets and series of fresh beauty or increased excellence, and there can be but one opinion on the question. Quench this spirit of emulation, withdraw from circulation every Headline Copy Book, throw Teachers and scholars alike on the resources of Individual variation and Blackboard Standard, and the final decline of Penmanship, all true Handwriting, will have been inaugurated.

Irregular and Varying Models.—Again it is not only that these proposed Blackboard Copies are imperfect and defective, they are also **Irregular and Varying.** The perpetual changes that must occur in the style of the models set on the Blackboard —changes that in thousands of cases will not be yearly, or even monthly but weekly and almost daily—are objectionable and most mischievous in their tendency. As an illustration let us glance at the career of a Public School pupil under the regime of Blank Copy Books, and in the hands of Blank Book advocates. The lad enters Standard One, where he is taught the principles of formation, and where his practical education consists in tracing or imitating copies written on the Blackboard by his teacher. Certain elements of outline, slope, spacing and junction are learned, but the lad never sees a perfect model of writing through the whole year, and the models that he does see of necessity vary repeatedly ; sometimes carefully written, sometimes the contrary ; sometimes one size, frequently a different size ; occasionally one slope, generally some other slope ; possibly—for accidents will happen in the best regulated institutions—on rare occasions no copy at all and the class will be told to repeat the previous headline, which they do, and to improve upon it which they as surely do not. On entering Standard Two where the teacher affects a less sloping style of writing, the pupil is introduced into a new world—a world of round steep characters which require fresh effort to appreciate and acquire ; and an entirely different posture of body and arm in its production. Surmounting the obstacles

thus thrown in his path by the System under examination, Standard Three is entered where a continuous and very oblique style of writing obtains. The pupil commences de novo so to speak his instruction in Caligraphy, and by the end of the School-year has attained to considerable proficiency in his new mode only to find that when he reaches the Fourth Standard it is almost worse than useless.

Writing here assumes quite a novel character, a kind of composite or blend of several styles. The teacher has peculiar ideas as to junction, length of loops, construction shape &c., all of which the bewildered pupil is expected to rapidly absorb, assimilate and practise. Finally in the stages of the 5th 6th and 7th standards the hapless youth is treated to a series of contradictory lessons, and conflicting directions, unaccompanied all through by any perfect copies or examples which would serve as a standard for reference, or a model for imitation. During all these years the victim has never seen a specimen of perfect writing, and the models that he has seen have varied repeatedly, sometimes carefully written, sometimes otherwise ;—different teachers, varying and conflicting methods, diverse styles, unequal lengths of loops, contradictory principles of construction and junction ! the unhappy pupil is bewildered and overwhelmed in a sea of such inconsistencies, his writing is cramped and weak, and most probably ruined for all future time. Where, it may be asked, in the whole domain of Education is there another such Comedy of Errors as this of Blank Books, with their capricious and protean Blackboard models ? Good writing is impossible under such conditions. Irregular and varying models are an unmixed evil altogether inadmissible as a medium or agent for the teaching of writing.

On the contrary with Headline Copy Books the pupil is supplied with a progressive course of carefully engraved headlines in a comprehensive series of Copy books, more than enough to carry him through his entire writing career. All the Copies are to one pattern ; one idea, one principle, one style permeating and governing the whole set. No variation or contradiction in size.

construction slope or quality, but a system of Penmanship that at least is consistent with itself throughout.

Thus the child leaving standard, class, or form one, finds nothing confusing in standard two, meets with everything agreeable and helpful in class three, and to the highest form or division in his school, is aided in his efforts to shine in caligraphy by a series of perfect and unvarying models, uniform in their excellence as they are scientific in their arrangement.

Ungraded Models.—It will occur to the thoughtful reader that Blackboard models will as a rule exhibit a sad lack in gradation. Who is to see that the copies prescribed to the several writing classes in our large Schools are properly graded, and adapted to the powers and ability of the writers. It may be safely presumed, that in an overwhelming proportion the copies will be unsuitable from defective progressive arrangement, and the advancement of the scholars will be retarded in a like ratio, as every teacher will recognise. All true gradation will of necessity be neglected, to the serious endamagement of the pupils, if that gradation be left to the hap-hazard writing of Teachers on the Blackboard.

Again the grading of copies as to size—text, round or small—and the judicious blending of these sizes (a matter of no small importance) can receive but scant recognition under the Blank Book regulations. The rulings in the books, and the sizes on the Blackboard will seldom harmonize; in short when it is remembered that size, character, words and sentences have all to be separately and independently graded in an appropriate and scientific order, it would be worse than foolish to suppose this could be achieved by indiscriminate and improvised copysetting on the Blackboard by teachers, who generally speaking, would not have devoted two minutes thought or preparation to their task. Efficient grading of writing models demands a concentration of attention, and an expenditure of time, that are simply beyond the resources of any teacher during the busy hours of a day's routine.

Moreover, what can be done with personal or individual grading in Blank book Classes? It is an unheard-of phenomenon

to have sixty or eighty pupils in a class all precisely at the same stage, all gifted with the same receptive capacity, the same mechanical skill, the same imitative ability. What can be done when there is only one Copy for the whole form? Necessarily all must write it whether they are able or not. For some the Copy will be much too easy, for others about right, for the residue much too difficult. As a rule teachers insist upon the value of individual instruction; here the principle is grossly violated, and hence the class becomes completely disorganised and the writing hour proves the most disagreeable and vexatious in the day. Such a grievance cannot exist where headline books are employed. Each pupil gets a book exactly suited to his own need, and when finished the next is equally adapted to his peculiar requirements, or, if dictated by expediency, the same book can be repeated. Ungraded models may fairly be considered as an insuperable obstacle to the reception of the Blank Book system, as propounded by its advocates.

Temporary or Transient Models.—In addition to the foregoing still another obstruction perplexes the enquirer, when the Temporary or Transient nature of Blackboard Models is considered. They are here one hour and gone the next, evanescent as a dream they are gone in the twinkling of an eye. They have no permanence; consequently all opportunity of reference and comparison has vanished with them.

Reasoning again by analogy, our maps, diagrams and illustrations preach to our children "**All the year round,**" teaching, educating, and speaking their history every hour and every day to their juvenile beholders: they are not relegated to the shelves or oblivion of a locked-up store room, but they are on exhibition always and ever.

Similarly ought the Headlines and Perfect Copies to be perpetually speaking from the pages of the books and from the walls of the schoolroom to the pupils:—from the engraved copies in the former and from the enlarged Alphabet Diagrams on the latter.

It is by the daily and oft repeated sight of these Headlines that children derive their only mental perception and conception

of the true outlines and proportions of the letters they have to reproduce so frequently ; and thus their appreciation grows until an accurate knowledge is attained, that imparts cunning to the hand, that guides the fingers in their caligraphic evolutions, and dictates the grace and elegance that find expression in a style of handwriting, that is as beautiful as it is legible.

For other cogent reasons it is expedient that the copies or models should be permanent. It will be found that the members of a class write at different rates, and some will have finished the page (or the line) long before their fellows.

Certainly the quick writers can proceed to a second copy, but this would create another evil very widely condemned but alas too often practised, viz., writing one and the same copy for too long a time. Then with large classes how impossible to efficiently correct each book in the one lesson. Consequently, the Master in making his rounds is unable to correct any back work even by comparison with his own imperfect Blackboard copy, thus his correction is robbed of half its value.

But further these corrections even in the best conditions, are wonderfully depreciated by the consideration, that in all subsequent time they will be comparatively meaningless.

A pupil looking over his book sees certain marks on various letters in the back pages. They are almost absolutely useless to him as he forgets the signification of the marks, and has no permanent model to refresh his memory, or to give him the clue.

A reply to this may be that the Master can re-write the Copy on the Blackboard. Precisely so. That is possible, but such an act requires time and labour, and multiplies details to an extent simply intolerable. One is inclined to predict that as the subject receives more careful attention, teachers will conclude, that the absence of permanent models constitutes an objection to the System of Blank Copy Books which is fatal to its success or survival.

Amongst the minor objections to this scheme may be noticed the promiscuous character of the subject matter in Blackboard Copies. They change with every variation in the Teacher's mood ; trivial, insipid, dull, dry, appropriate or the reverse. This is not

an inseparable or necessarily an inherent defect of the system, but under the existing state of things we fear it is an inevitable one. For it is impossible to conceive that Head, Assistant, and Pupil Teachers shall be able to compile or write off hand series of Educative and Consecutive headlines. We would not unduly press this point of heterogeneous headlines, but no set of copy books in these days would secure any approval were this principle ignored, as must generally be the case with Blackboard Copies ; so that the importance and principle of such sequential and assorted headlines are satisfactorily established by universal consent and practice.

A second minor difficulty is the position of the Blackboard in relation to the several pupils in the class. It is a fact that in many schools the light is bad, and where it is good, myopia or shortsight, that obtains so generally amongst schoolchildren, will involve us in the same embarrassment. What shall be done with these shortsighted pupils that are always to be found in every standard of an elementary School? They are at a grave disadvantage unless special provision be made for them.

Then if they are placed in the front desks, and the Blackboard is brought nearer in order to accommodate them, those in the wings will have imperfect and one-sided views of the Copy that will render it practically worthless.

Short-sighted pupils render Blank Books with exclusive Blackboard teaching very unsatisfactory if not prohibitory.

A different class of objections to this Theory may now be examined, and in order to discuss them we will assume that the classes are always supplied with Perfect Models, Uniform Models, Graded Models, and Suitable Models. so arranged that every writer in the Class commands a perfect view of the same (all of which essentials as we have seen the System utterly fails to provide). However taking these points as settled it is asked, How will the change now proposed by these Blank-Book-Theorists affect our Teachers? For good or evil? We think the latter and for substantial reasons. On the ground first that it involves too great a loss of time, or it necessitates too great a sacrifice of time.

The setting of appropriate and faultless copies on the Blackboard every day is an additional burden too hard to be borne. If such an infliction were imperative it would end in setting most hurried and inferior copies, and in frequent undesirable repetitions of the same copy, the writing thus degenerating to an alarming degree.

Not only will it thus hamper our already restricted action and further weaken our already impaired teaching power, but its effect in large schools will be both unequal and oppressive, for usually there are some of the teachers who cannot write a copy sufficiently excellent to serve as a model, hence the strain upon the best writers will prove not only burdensome but conducive to no small amount of irritation, or at least to anything but good feeling and harmonious co-operation. On the other hand the pupils themselves are seriously endamaged by this plan of Blank Book writing. Can juveniles imitate a copy on the Black Board at a distance of from twelve to thirty feet as readily, easily, and as perfectly, as they can a copy not three inches from their penpoint? No one will deny that it is very much easier to fac-simile a writing or drawing copy from the book, size for size, than to imitate by reducing the large sized copies on a blackboard at a considerable distance from the pupil. Consequently the Minimum of Imitation is a feature peculiar to the Blank Book System and it is no answer to say that this Black Board work will help the pupil in Drawing. Writing is of too great importance to take the Subordinate position of handmaid to Drawing. Quite the reverse. Drawing is admittedly the handmaid to writing and will take care of itself.

The difficulties thus thrown in the way of young beginners undoubtedly protract the final issue by retarding the pupils' progress. Possibly the opponents of Headline Copy Books have overlooked the great loss of time to the children that ensues from the adoption of Blank Books. With conscientious pupils this loss is serious indeed and with careless children the loss, though in a different way, is greater still. An honest child will repeatedly and continually stop to look at his Blackboard Copy, his rate of progress is therefore relatively abnormally slow. A heedless child by

contrast will hardly ever look at the Copy at all, and its progress will necessarily be a minimum.

A very irritating accompaniment to the scheme is the perpetual movement of the heads (too often of the bodies also) of the writers as they look up at their distant copy. The temptation to look at one another is alas often too strong to be always successfully resisted, and instead of a quiet and uniform attention to their Copy Books, as is the case with engraved Headlines, there is a continual motion of heads going on all over the Class causing shakings of the desk and grumblings from the writers, who are disturbed thereby. Disorder is both produced and encouraged by the practice of Blank Book writing.

Lastly the influence of blank Copy Books upon a class is very disheartening. Nothing to relieve the monotony of the outlook, or inlook either for that matter. No fresh or higher number of Headline Copy Book to anticipate, with its interesting collection of instructive sentences, its elegant capitals, and its modified style to stimulate the pupils! What a valuable element of emulative Education is thus lost entirely.

Summarising these **defects of** the Blank Book System we observe that

1. It presents **Imperfect Models** for imitation.

2. It possesses nothing but **Irregular and Varying Models** which preclude any consistent system of Penmanship.

3. It can only produce **Ungraded Models** so that the essential element of General Gradation is both ignored and neglected.

4. It also offers **Transient Models**, thus rendering all true Correction uncertain or impossible—often the latter.

5. It can only give **Promiscuous Models** which in the majority of instances are both inappropriate and non-educative.

6. It entirely lacks all **Individual Grading** so essential to real and rapid progress.

7. It fails to provide for short-sighted pupils.

8. It involves much loss of time to and imposes much unnecessary work upon the Teacher.

9. It causes irreparable loss of time to the pupils.

10. It possesses the '**Minimum of Imitation.**"

11. It yields the minimum of Interest, Attraction, or Stimulative power to the pupils.

Surveying this formidable array of faults and defects it must be granted that Blank Books can boast of little that is good, and of nothing at all that can by any stretch of the imagination be considered superior to Headline Copy Books, more particularly when it is found impossible to flank it with any similar list of compensating advantages.

Since writing this chapter a somewhat profuse correspondence with the advocates of Blank books has eliminated all that can be said in favour of the system. Most of the arguments have already been fully met and confuted in the preceding pages, but the following four points seem to call for special remark.

1. "All the children are at the same copy at the same time."

2. "No blank leaves to fill **from** absence."

3. "Absentees do not fall out of the running and thus have "not to work at different copies, scattering energy of the teacher "who is **compelled to resort to individual correction.**"

4. "Blank books allow of Class teaching from Blackboard."

Of these points No. 1 has already been discussed and shown to be undesirable and detrimental to true progress. Number 2 is beautifully simple and innocent, indeed mysteriously so. The writer of such a statement must see that the argument is more, much more, favourable to Headline than to Blank Copy Books. One illustration will suffice for points 2 and 3. Two children are absent from School say for a month, and return to their respective writing classes, one of which is taught on the Blank System the other on the Headline System. A, enters the first to find that his schoolfellows have written from eight to a dozen copies in his absence, that they have received 8 to 12 lessons in the same period, and that therefore both in theory and practice they are far ahead of him. He is left hopelessly in the rear, despairingly in the lurch. We are told he has no blank pages to fill up—aside we might suggest he never has anything else to do—but it must be

asked what about the pages and lessons he has missed? Is it not obvious that this Blank Book victim is quite **out of the running**, that he will perforce have to work at the same copy as the rest of the class when he is admittedly unfit for and unable to do it? What about the individual attention rendered necessary if this returned absentee is to get any justice at all in his writing class?

His schoolfellow B, on the other hand enters the "Headline" class at the same time and under the same conditions. But what a contrast! Here also the pupils have written the same number of copies and received the same number of lessons, but that does not affect our friend. His book is opened and **he commences just where he left off.** Every individual member of his class is an independent member, each pupil working at that exact stage most and best adapted to his personal ability, and therefore he resumes his labours under the very minimum of disadvantage, conscious that he can proceed with his copy as satisfactorily as before his absence, and with no despondent reference to his class-mates. He feels he is **not** out of the running, and the teacher knows it, for there are no lapsed copies and lessons which he can never overtake.

Blank books are certainly inferior to Headline Copy Books in this comparison.

Lastly as to No. 4 it is somewhat difficult to understand its drift. **"Blank Books allow of class teaching"!** Of course they do, but are we to understand by implication that Headline Books do **not** allow of Class Teaching? It has been shown that they not only permit, but that they require and demand it equally with Blank or any other kind of Writing Copy Books. If the objector does not see "how the Black Board can be used" with advantage to illustrate and demonstrate principles to writers in Headline Copy Books just as well as to writers in Blank Books —or for the matter of that to writers on slates also—anything that has been said or could be said in that direction would be powerless to convince him.

It is a palpable delusion to imagine that Black Board demonstration is only useful when every member of the class is engaged

in writing exactly the same copy, word, or letter. One may take twenty different headlines, say of small hand, and there will hardly be a single copy amongst them that is not composed of elements common to all.

Finally the practical use to be made of the Black Board as a medium for instruction in writing when Headline Books are used, is identically and precisely the same that a Blank Book advocate would make of it AFTER he had written the copy, viz. to illustrate or explain any point of difficulty principle or mistake, that might arise in the day's teaching.

Indeed such is the preponderating weight of evidence in support of Headline Copy Books, and so slender flimsy and untenable all the arguments for Blank Copy Books, as to render the use of the latter a matter of personal pressure, accidental impulse. inclination to novelty, or of vested interests.

Isolated cases may occur and particular individuals may possibly secure good Blank Book results by means of that devotion and abnormal expenditure of labour and zeal which hobby-riders so generously and so generally indulge in, but it is vain to expect that the tens of thousands of our teachers will accept a system which literally bristles with anomalies, difficulties and defects.

It may be that, in the words of a zealous defender of Blank Books, "The day of Headline Books is past"! "Headline Copy "Books are obsolete"!! "Headline Copy Books are virtually a "thing of the Past"!!! It may be so, but appearances are against it, facts disprove it, and logic derides it, and it must be asserted with the calmest deliberation that on all counts, in all aspects and respects the verdict is unanimously and unreservedly against and opposed to the introduction of any System of Blank Copy Books for the teaching of writing in our Elementary and Secondary Schools.

NOTE: Lest the assertion on page 60 reflecting on the quality of the writing of our teachers be considered exaggerated or unfounded I here reproduce some extracts just taken from the Blue Books of current and recent years, in reference to handwriting in England.

"The writing of the **pupil teachers** is generally poor" (Her Majesty's Inspector). "This latter remark I would specially emphasize in the case of my own district, to which I attribute a good deal of the poor handwriting that exists in its schools" (Chief Inspector, p. 308).

"The **assistants** are too frequently unable to set a proper copy on the blackboard" (p. 16).

"**Teachers** cannot always write well themselves" (p. 18), and as to the caligraphy of our Students in Training for teachers we read :—

"Handwriting is becoming worse every year" (Report on Training Colleges, p. 450).

These statements surely justify every word in the paragraph referred to, coming as they do from those who are best able to form a judgment on the question.

CHAPTER VI

DESKS SLATES BOOKS PENS INK ETC.

WHAT Desk do you use? How does it answer? Is it adjustable, rigid, durable, reliable, convenient and efficient? Again and again are the changes rung on these questions yet how seldom are the answers satisfactory. The desk is the most essential, expensive and important article of furniture connected with the art of writing. Upon the correct and hygienic construction of the desk depend almost vital issues, not solely with regard to the caligraphy, but more specifically to the health and well-being of the writers. Human skill and ingenuity have been lavished upon these articles to render them as perfect as the most stringent demands could require. On the continent, where the interest excited has been of the deepest character, Doctors of Philosophy and of Medicine have vied with each other in efforts to evolve the most perfect and effective desk possible for school use. The almost unanimous verdict is in favour of a low desk that shall permit the arms of the writer to rest naturally thereon, when he is sitting erect, without either raising or depressing the shoulders, and although this end is seldom actually and individually attained in large schools it can be approximated to very nearly. These low desks about which there has been, and still continues, such a fever of excitement have not had a sufficiently long test to prove them to be altogether advantageous and superior to those that are higher. It is still a moot question whether the support which the writer receives from the back rest is superior to the rest afforded by the arms when they are placed upon the desk to counterbalance the weight of the body as it is inclined forward in the act of writing. The great weight of evidence nevertheless is in

favour of the Back rest and it is more than probable that tests and time will confirm the judgment, and that the low desks will entirely supersede those at present in use.

When we come to speak of the slope of the desk fewer difficulties meet us, and the case is capable of very easy settlement, although the best precise angle has not been definitely fixed.

Two or three degrees in either direction can hardly make much difference and as writers on the subject vary between 10° and 15° of slope, teachers cannot go far wrong within these extremes.

If the erect posture of the writer is to be maintained 12 or 13 degrees would seem to be the Hygienically superior slope to observe.

The 3 or 4 inches of flat surface beyond the slanting portion should be provided with a pen groove, and with holes at convenient distances for the inkwells, which should be protected from dust by sliding metal covers sunk flush with the desk. For junior pupils the desks should not be more than ten inches broad, for seniors they may be eleven or twelve independent of the flat ridge.

A narrow seat is an instrument of torture and should not be permitted, some we have seen being not more than six inches broad. The width should not be less than ten inches and may be increased to twelve with advantage and benefit. If the form be hollowed out along somewhat near the back it will tend to prevent slipping, and will yield a more comfortable seat. Care must be taken that the hollowing out is not made too deep, or the writer will be thrown backwards too far off the perpendicular. Of course the introduction of the low desks will render lockers and partitions for books running underneath a matter of impossibility. A ledge should therefore run under the seat, which, whilst not nearly so convenient, will still provide some accommodation for the pupils' books.

Whether single, dual or longer desks are employed is matter for individual preference or financial consideration, but all desks should possess the following essential features:—a smooth and

sufficiently broad writing surface, adjustable action (both simple safe and strong), a workable angle of slope, rigidity, foot rails, good broad seats hollowed out and furnished with back rests, an ample supply of inkwells—covered when not in use—and shelves for books.

With a desk and seat fulfilling all these requirements the writing of the children might reasonably be expected to answer and respond to the most rigid demands of the severest criticism or Inspectorial examination.

Slates! Shall slates be used at all in our Schools? Are they desirable aids to Education, are they helps, material helps in the formation of a good handwriting? Hygiene and Optics reply to the first query and say "Certainly not"! Slates are dirty and dangerous as well as injurious. Discipline chimes in and denounces them as noisy and troublesome. But, paper is expensive! Granted, it will cost a little more money than our old friends the slates: the gain however in Discipline or order Cleanliness, Health, Neatness, and Improvement in writing will prove to be more than a compensating benefit and blessing. The exclusive use of paper is strongly recommended, as being not only highly superior from an Educational Standpoint, but all things considered ultimately more economical. Where slates are used they should be of a good size, framed, strengthened at the corners, and ruled on one side. They must never be allowed to get dirty and greasy as the writing on them is then not only difficult but almost illegible, by reason of its faintness, and it may be predicated that much of the injury to sight is caused or intensified by slate writing.

Indeed with the best of slates the ratio of visibility as compared with ink writing or pencil writing on paper is as 3 to 4. How much less this will be with dirty and greasy slates can easily be imagined. White slates are much to be preferred to black ones. It is simply cruelty to insist upon children writing on these black and greasy slates in a room imperfectly lighted and (as in numerous instances) with the light at their backs. Then in how many cases are the pencils simply stumpy ends, hardly long enough to be held in the tiny fingers. This evil must be remedied and

holders provided or new pencils supplied. Lastly, soft slate pencils are the best, if hard and gritty they scratch and destroy the surface of the slate, thus making an inherently bad article still worse.

When our Educational Authorities wake up to a sense of their responsibilities, all such important details of School Life and Experience, as these now under discussion, will be thoroughly investigated decided upon and Reformed.*

Of course the objections to slates have not all been mentioned. The mode, the general if not virtually the universal mode of **cleaning!** the slates constitutes in our opinion a valid reason for their abandonment. Who that has witnessed the proceedings in an arithmetic class where slates are being used can entertain any doubts on the question? Get rid of slates and you get rid of the dirtiest and most demoralizing habits that are born and bred in the Schoolroom. It is not decent to retain them, it is not safe, it is not wise.

Let them go, few will be found to mourn their loss.

Books.—In the matter of Books their character as to Headlines has already been examined. There are other considerations to which attention may be directed. And first as to paper. It is a false economy to have inferior paper. Such a thing as Educating Downwards does unhappily exist and to true teachers this is a calamity, a deplorable calamity, ever to be shunned.

Competition fortunately cuts out from the market defective paper, and it is cause for congratulation that the School Boards generally set such a worthy example in the question by insisting on a certain (and certainly good) quality of paper in all contracts for Writing Copy Books. Poor thin paper is no longer a recognised entity, and as a rule Copy Books are now unexceptionable in this respect, those that are not will soon possess only a past history.

The Shape of the Copy Book is an interesting topic to examine. Shapes vary (Fig. 24), and so do sizes very considerably. The Sizes of Books differ so very much that we give the extreme dimensions between which there is every possible variety. One

* Jolly's "Education in its Physical Relations" gives very clear and sensible directions on these points.

of the largest will measure 10 inches by 8 whilst the smallest is 7 by 4, or 80 square inches and 28 sq. in. Some are Square as No. 1, and some oblong, the latter having two kinds, those which are longer horizontally (as No 2), and those which are longer in the Vertical direction as No. 3.

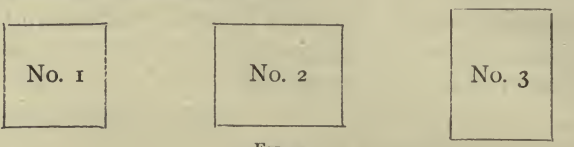


FIG. 24.

In Germany and Austria, where these and similar points are professionally and exhaustively discussed, a very strong movement has set in opposing shapes Nos. 1 and 2 and approving of style 3. Many critical and clever essays have been written on the question and after careful study of the arguments it is almost impossible to resist the conclusion that the advocates of short lines or narrow Copy Books have the best of it. Correspondence forms one of the most common and largest classes of penmanship (Commercial and Professional). It is found that small, medium and large sized note papers are the most convenient and practically useful sizes and shapes for letter writing. On this ground it is surely expedient to assimilate as far as possible to common usage in our School practice. Indeed most office books such as Day Books, Journals, Ledgers, Cash Books, &c. take the same form and are narrow from left to right, and long from base to top. It is evident therefore that by using Copy Books of an entirely different shape with juveniles an unfair strain is put upon the pupils at a time when they are least able to bear it, and that we are exacting from them a task which is both unnecessary and inexpedient. But again, it is found by medical men, Oculists, that as the writing recedes to the right it becomes injurious to the eyes, and that the only remedy for this danger is to use narrow books, and preserve what will subsequently be described as the middle straight position.

It has been advanced as an argument for the Long-line Copy Books, that there is a not inconsiderable advantage in the

superiority of the Headlines: greater facility being afforded for Educative copies than is possible with narrow books. But in reply can we not make the short copies quite as suggestive as the longer ones are explicit, so as to reduce the difference to an insignificant compass; and secondly, does not the disadvantage peculiar to the long copies of being detrimental to eyesight more than counterbalance any slight benefit such as the one just described?

It is strongly recommended that no Copy Book Headline exceed seven and a half inches in length, and that this size be used alternately with another, of say five or five and a half inches. Such a width would bring the work of the pupil well within the circle of vision that oculists inform us is a healthy limit, their decision of course, on matters pertaining purely to eyesight, being of the utmost value and authority. The narrow books (or short line books) are being rapidly adopted on the Continent, and it may be surmised that it is only a question of time and that not far distant when the very large books will have entirely disappeared. Whether our English Teachers will easily become converts to the New Shape remains to be seen. It is to be hoped that any real advance, however small it may be, will immediately be appropriated by the English profession, although we are proverbially slow to appreciate and still slower to adopt substantial reforms in whatever direction they may be made.

Ink. Although usually regarded as a minor point of little or no importance the kind of ink that is used in School writing will be found to materially affect the welfare of the classes. Even when good desks and seats, good light, paper, and pens are all given to write with, a thin pale ink proves very distressing especially with young people. What it must be, how much more aggravating, where the desks are not commodious, the light is inferior, the paper thin and the pens bad we cannot say and would rather not imagine. The consequences under such conditions must be serious. Who does not recall with feelings akin to disgust his futile struggles to produce decent specimens of calligraphy at school when using ink that was best described as sooty

and greasy water? The ink used in schools should not be chemical, i.e. writing faint and turning dark afterwards, but it should be of an intense blackness, so that the writing is plainly visible, as it is being traced on the paper, without straining the sight. Excellent school inks at very moderate cost and to which no exception can be taken are now manufactured by many makers in all parts of the world.

Pens.—Only a word is necessary with reference to pens and penholders. The market is glutted with an abundance of nibs many of them utterly unfit for use, being made of poor metal and furthermore badly finished. Good durable pens will always prove the cheapest and best ; so-called cheap pens are invariably the dearest and most unsatisfactory, as the constant changing of nibs that is required creates much disorder and loses much valuable time. Nothing disheartens a child more than to write with a "scratchy" or "Bad Pen." Let teachers see to it that no scholar has such an excuse for the "Bad Writing" that always follows in its train. Fancy and fanciful penholders are undesirable and useless. The plainer and simpler the holder is the better. We have yet to see steel-tipped holders, a contrivance which by preventing nibbling and gnawing of the tops so widely practised in our schools would be as beneficial to the pupils as economical for the management. As to length the penholders should not exceed six inches nor fall below five and a half and they should not be thinner than an ordinary lead pencil, the thickness varying with the size of the hand or writer. To employ a thin holder is considered a dangerous practice, as much writing therewith will induce spasmodic tightening of the grasp and thus favour the habitual contraction of the muscles which causes writer's cramp.

Blotting Paper.—Blotting paper is essential to and a desideratum in every writing class It is difficult to understand why many teachers forbid its use and discountenance its very presence. For cleanliness utility and saving of time blotting paper is invaluable. When a page is finished much time will perforce be wasted if blotting paper is not forthcoming, and during the waiting (or wasting) time thus entailed temptation to talking and disorder is

terribly strong. It is also equally imperative that the copy books be kept as clean as possible. How is this to be done if there is no blotting paper on the page for the hand to rest upon? Children do not enter their classes with clean hands as a rule (unfortunately the reverse is generally the case) and the unavoidable consequence is that the copy books bear very objectionable evidence of these dirty fingers from the first page to the very last. Besides this the surface of the paper is almost destroyed for writing purposes by the grease and heat from the hand if no blotting paper is allowed. Lastly on this point, in all good offices the usage is to have blotting paper under the hand (and at hand) in every kind of writing, and if it is thus found to be requisite for adults how much more necessary is it with juveniles.

A word as to the mode or modes generally adopted for cleaning the pens. In numerous schools the pens are never cleaned at all, in others they are cleaned by processes as manifold as they are objectionable, and in some few establishments penwipers are used and the pens are cleaned as they ought to be, daily and effectively.

Of course teachers should aim at inculcating habits of neatness and cleanliness, and in the Writing Class these habits may receive material strengthening and stimulating by the mode of pen-cleaning that shall prevail. It will not always be possible in elementary schools, but if penwipers could be introduced generally, much that is slovenly and dirty would disappear from our classes

CHAPTER VII

POSITIONS OF WRITER BOOK AND PEN

THE Hygienic demands upon the teacher with respect to the teaching of Handwriting have already been fully established. The obligation cannot be evaded, for as we have seen in Chapter II. the posture in writing is a matter of the highest importance, and we must add of vital consequence. Moreover it must be understood here at the very outset that we tolerate no compromise with half measures or superficial treatment. The question is too grave to be tampered with, and no honest mind after reading the reports of medical men, who have given this special subject their most earnest attention, can remain indifferent to its claims.

Ever since the incursion of Slope have its followers been trying—but in vain—to find and fix the best posture of the body in the act of writing. Every conceivable attitude, from the extreme right side to an equally extreme left side position, has been in turn tried, advised, and ultimately abandoned, the bewildered experimentalists in despair giving it up and crying out with a last gasp "Sit as you like, everybody to his own fancy. It "doesn't matter how you sit." Teachers have indeed been heard to say, (did I say teachers? I will add eminent Educationists have declared, even in print) that "rules for posture in writing are absurd. "Every writer should find his own easiest position, hold the pen as "he feels best he can, and move or tilt his book to suit his own "convenience." This is after all not a bit surprising, for there are no lengths to which "Slopers" will not go to justify the obliquity of their penmanship; and so when "Sit up straight to the right," "Sit up straight to the left," and all the intermediate degrees of twist and erectness have been exhausted to no avail the only

safety is in pooh-poohing the necessity of any rule at all. Hence we have had the convenient "carte blanche" system insisted upon for years by numerous exponents of the caligraphic art, scattering dismay through the ranks of all law-abiding teachers, and destruction through the masses of victimised pupils, whose misfortune it has been to come under their jurisdiction. This trifling with serious matters is not to be tolerated, it is unique in the whole range of Instruction and Education. In no other domain of Literature Science or Art is such a state of things permitted or even mooted.

Robust bodies and reckless minds may ignore and even deny the evil effects of bad postures, but in these days it can only be at the sacrifice of either veracity or prestige.

The straight upright position of the body then must be insisted upon, the arms of the writer being freely and equally placed on the desk—at what distance from the sides the elbows are to be, will be regulated by the relative heights of the desk and seat—the left hand steadying the book or paper in use. Every advantage must be taken of the back-rest (where it exists) as it is calculated not only to yield support and diminish or prevent weariness, but also to impart confidence to the writer and strength to the writing. Make the posture as natural and easy as possible, and the healthier it is, the better for both writer and writing. The head should not remain stiffly erect in a constrained manner, but should incline forward sufficiently to command the most perfect view of the writing, the feet being supported on a footrail or drawn up somewhat under the body.

Crossing the legs or sprawling them about is both undesirable, and injurious to the cause of good writing.

In the act of writing the body should be well braced up and held together; laziness and looseness of posture beget looseness and slovenliness in the caligraphy. A distance of from twelve to twenty inches or even more will thus be maintained between the eyes and the book, varying of course in accordance with the heights of the writer and of the desk.

If the opinions concerning bodily posture in writing have been

countless and conflicting, equally so do we find them in the matter of position of the Copy Book. Nothing definite or determined has been arrived at amongst the advocates of Sloping Writing, but in striking contrast to all this uncertainty we have with Vertical or Hygienic writing but one possible position, and that is the straight middle position.

To Dr. Paul Schubert, the eminent oculist of Nürnberg, belongs the honour of triumphantly demonstrating by numerous measurements and observations the only practicable and truly Hygienic position of the Copy book. The results of his able and exhaustive experiments are given in the Journal of School Hygiene 1889, from which we quote largely in the following arguments.

The question as to what position of the Copy Book is hygienically the best and least dangerous to the spinal column and eye of the writing child has for many years been occupying the minds of teachers.

We have at the outset to distinguish between a middle position and a right position of the Copy Book according as the latter, in the writing, lies exactly in front of the middle of the body, or to the right of it.

Left positions do not concern us in right-handed penmanship.

Further we must make a distinction between straight and slanting positions of the Copy Book, according as its edges have or have not the same direction as the edge of the desk.

In our right-sloping caligraphy oblique position consists exclusively in making the upper edge of the Copy Book revolve towards the left.

There are accordingly four positions to be considered Straight and Oblique **Middle** positions, and Straight and Oblique **Right** positions. Each of these stands in closest relation to direction of writing.

In the Straight Middle Position only **Vertical Writing** can be produced, in the other three positions only the ordinary **Sloping Writing**.

If from the point of the writing pen a line is drawn towards the middle of the breast and termed the **line of direction** of

the last written downstroke, then for all four positions of the Copy Book the proposition holds good that downstroke and line of direction approximately coincide. This relation can be confirmed by measurement in every School, where the children write without being subject to influence or constraint. Experiments made by Dr. Schubert with 316 Scholars embracing some 1586 measurements fully supported this hypothesis. It would lead too far to pursue in detail the process of movement in writing, in order to explain the agreement of the downstrokes with their lines of direction in every position of the Copy Book. Suffice it to say that the relation put forward is abundantly approved. Since therefore in Middle position the downstrokes stand perpendicular to the edge of the desk, they will stand perpendicular also to the edge of the Copy Book and to the writing line if the Copy Book is placed straight.

If however the latter be turned with its upper edge towards the left, the writing lines rise from left (below) to right (above) but the downstrokes remain as before perpendicular to the edge of the desk, hence they come to stand in a right oblique position as regards the writing line, and their obliquity depends on the degree of the turning of the Copy: we repeat consequently that Vertical Writing **only** can be written in Straight Middle Position, and Sloping Writing **only** in the oblique. In all right positions the downstrokes like their lines of direction stand right oblique to the edge of the desk. If now the edge of the Copy Book is parallel to the latter the letters stand just as oblique to the writing line also. Should the Copy Book be turned towards the left the inclination of the down strokes towards the writing line increases. But never in right position can vertical writing be produced; for to attain this object, the Copy Book would have to be turned in the direction in which the hands of a watch move, so that the lines would run from left above to right below. To write in this way is impossible.

Consequently in straight and oblique **right** positions, only sloping writing can be produced.

From this standpoint we then advance to the principal ques-

tion viz. in which position of the Copy Book does the child adopt the best bodily posture, endangering or unduly burdening no organ? The most gratifying unanimity prevails with the whole body of investigators on the fact, that all right positions of the Copy Book are thoroughly injurious and utterly to be rejected.

For: They compel the head to turn to the right, the shoulders follow more or less, the right arm slips on the desk to the right and to a certain degree downwards, the left arm is pushed up causing the shoulder to rise, the right sinks, the spinal column loses its upright posture and assumes a bending towards the left, the body—to which this wearisome distortion becomes in the long run uncomfortable—collapses more and more, the lateral bending is accompanied by a similar one forward, and the head, approaching the writing in a way extremely threatening for the eye, even sinks down upon the left arm which is pushed before the middle of the body.

Beginnings of this bodily distortion are found in every child who adopts the right position of Copy Book, and in the majority of cases the result is really wonderfully Cramped postures, on which the stamp of danger to health is unmistakeably imprinted.

There are two organs in particular which are distressed by this, the Spinal Column and the eye, as we have seen in a previous chapter, for according to Dr. A. Baginsky amongst 1000 cases of crooked growth 887 or 88·7 per cent. took their rise between the ages of six and fourteen. Dr. Mayer found that the faulty posture of body, most frequently observed in the case of children writing with right position of Copy Book, exactly corresponded to the permanent distortions which were most common in those very school classes, viz. the C-shaped bend of the whole spinal column towards the left.

Dr. Schenk ("The Actiology of Scoliose" Berlin 1885), with instruments of very exact action examined and measured 200 children, with the result that 160 were found to sit at the writing so that they displaced the upper body opposite the pelvis towards the left, manifestly in order to convert, for the sake of easier production of sloping writing, the original middle position of the Copy Book into

a right position. All these 160 were found to be more or less affected with pronounced curvature of the spine.[1]

As to the position of the head, a bending forward is common and more or less necessary in all positions of the Copy Book, but the right position of the Copy Book requires two other movements, a turning of the head towards the right, and a moving forwards of the left eye which causes it to stand deeper or lower down than the right, thus constituting the first step in the deterioration of the whole bodily posture.

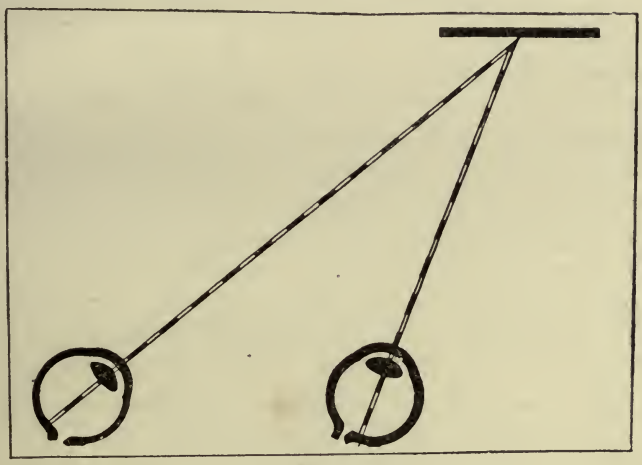


FIG. 25.

The eye is endangered by the right position because every deviation from an erect posture of body, every twisting of the trunk, and every cramping contraction of whatever kind bring the eyes nearer the writing and force them to stronger convergence of the lines of vision and to greater exertion of their power of accommodation by which the genesis of Shortsight is encouraged. (See Fig. 25.) These observations are the outcome of investigations by different authors such as Schmeller, Hähnel, Berlin, Florschütz, Remboldt, Schmidt-Rimpler, Seggel, Emmet, &c., which involved the examination of no less than 21,949 cases.

[1] See Appendix III. for further details

There is accordingly a sufficiency of reasons for prohibiting the **right** position of the Copy Book, and there appears to exist entire unanimity on this point amongst medical experts.

It remains only to determine whether the Straight Middle position with Vertical Writing, or the Oblique Middle position with Oblique Writing is the better. Here also observation and measurement are the decisive agents employed, which show that in oblique middle position the head is inclined considerably more than in straight middle position.

In 400 experiments in writing with straight middle position, the inclination amounted to 2·8°, but in 543 experiments with the **Oblique** middle position to 7·9°. In 258 positions of the copy where no directions were given but where the right position predominated, to 9° and in many extreme cases to 16°.

These results are borne out by general practice, and it is conclusively proved that the oblique middle position of the Copy Book not only induces the inclination of the head, but draws the body after it, bending and twisting the spinal column, thus producing according to Dr. Schenk that form of spinal curvature which we find described as the most frequent and characteristic school Scoliosis.

It is moreover an error to suppose that everything has been done, if the child is protected hygienically in the School building itself. The influence of the teacher is often limited to School hours, but in the question of caligraphy an excellent opportunity offers itself for demanding and exerting such influence in the preparation of home lessons, when the supervision of a teacher no longer exists. For if Vertical Writing be introduced into the School we may be sure that what is done at home is also, without any supervision whatever written in the Straight Middle position, as Vertical Writing can be produced in that position of the Copy Book only, and therefore there is no lateral Curvature of the spine.

Unless however the Straight Middle Position with its inseparable accompaniment Vertical Writing be insisted upon, there can and will be no security against the continuance of the prevailing

evils, since Oblique Writing can be produced just as easily (if not indeed more easily) in the obnoxious and injurious Right positions of the copy book as in the Middle.

The final conclusion is then, that the Copy Book should lie before the writer, not outside to the right of him. Nevertheless we are not inclined to go quite so far as our German critics, who say that the middle line of the paper should if produced be coincident with the line down the middle of the chest or sternum as this position would necessitate the right hand stretching over, across and beyond the medial line. Such a requirement would inevitably bring with it a tilting or bending over of the entire upper trunk, which would cause a most painful twist of the spinal column.

The diagram (Fig. 26) will illustrate all the positions hitherto considered.

When in the middle straight position the book must be so

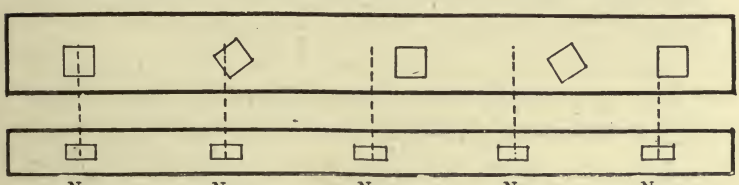


FIG. 26.

adjusted, laterally, that at no time is the writing carried to the left over the medial line of direction.

Any one can satisfy himself of the essential character of this restricting clause by testing in actual writing the postures as described.

Writing is easiest all round when the writing surface lies well before the writer in the straight position and covering the space bounded by the medial line on the one side and (shall we call it) the right shoulder line on the other, as indicated in No. 5 of the diagram above.

Position of the Pen

The pen should be held firmly but **not** tightly between the thumb and two fore-fingers. One writer informs us that the pen should be grasped only by the thumb and fore-finger but the experiment has only to be tried to entail a speedy abandonment. If the pen be properly held the first finger can at any time be lifted without danger of the pen falling from the hand. Whilst the thumb is bent up away from the ends of the fingers the latter are to be kept easily straight, perhaps slightly but only slightly bent and not approaching too near the point of the nib, or soiled and inky fingers will be the result. The end of the second finger may rest on the side of the penholder or may fall somewhat below it at the discretion of the teacher or writer. The penholder furthermore should ever remain on or above the principal knuckle of the fore-finger never being allowed to sink into the hollow near the second joint of the thumb. As to direction let the pen follow the hand and arm which are in one and the same straight line.

A common and not less pernicious habit is to allow the pen to take an outward direction to the right, when as an inevitable consequence the writing takes a backward slope and all the curves and lateral lines become thickened at the expense of the down-strokes, which attenuate off into hairlines imparting to the writing an appearance as peculiar as it is illegible. Broad nibs (as the J) conduce greatly to this abuse which appears to be prevalent amongst female writers.

Another danger is in holding the pen in a nearly upright position. This mistake often happens. People think vertical writing calls for a vertically held pen which latter brings in its train spluttering blots and **not** good temper. Let the pen slope at an angle of 40° or 45° to the paper, when it will be found to write with a maximum of ease and safety. Do not turn the pen on one side, but use, and press on, both points of the nib equally. Juveniles are particularly prone to write on the side of their pens, it being universal experience that the worst penmen hold their pens in the worst fashion. Instructors of youth in Elementary

departments where pens are first used in the Writing Class should see to it that they are held in the correct way. A **little labour** bestowed on this point at the beginning of a child's writing will save a **ton of trouble** in after years.

Eccentricities in the modes of holding the pen must not be entertained or encouraged for a moment, such as placing the pen between the first two fingers or between the 2nd and 3rd. These and similar vagaries are as absurd as they are clumsy and unscientific, and remind one of the directions given in a manual treating (in part) of writing and how it should be taught. Said this author "let your scholars hold their pens as they like ; it is "quite immaterial **how** they hold the pen **so long as they "learn to write well!"**

Briefly then we may consider the positions to be as follow, of :—

1. The Writer ; square, erect, easy, natural.
2. The Book ; the Straight Middle Position.
3. The Pen ; obliquely between thumb and two forefingers, in a line with arm.

By a consistent observance of these rules much will be done towards a great and marked improvement in the writing of our School-children.

At this point it will be appropriate to speak about the direction of the light under which children should write. Obviously pupils should not sit with their backs to the light, neither should a brilliant South light fall directly upon them from the front, the effect of which would be injury to the eyes from the insupportable glare and the reflection from white paper. Side lights are therefore to be preferred, and of the two the left side-light is superior and should be secured whenever possible. This conclusion harmonizes with general experience, in the office, the study and the Schoolroom.[1]

It is highly gratifying to learn that on the Continent many

[1] The light must be sufficiently strong and fall on the table from the left-hand side, and, as far as possible, from above (Dr. R. Liebrich, "School-life in its influence on Sight").

Educational Bodies have decreed that Vertical Writing be adopted in their Schools, and have also issued directions and instructions for the use of their teachers.

For example, the Imperial and Royal National School Board of Bohemia appends to its decree concerning Vertical Writing the following recommendations to its teachers.

1. Careful attention should be paid to the strict maintenance of the straight middle position of the Book so that the lines of writing run parallel to the edge of the desk.

2. In the initial teaching the lines should be short. For this reason the pages of existing books must be divided by perpendicular strokes into two sections and be written consecutively like separate pages.

3. Copying from subject-matter lying sideways to the left is to be avoided, because otherwise the children would sit between the writing surface and the matter to be copied, and so the Middle position of the former would be lost.

4. Both lower arms must rest two-thirds on the desk, quite symmetrically, so that they meet before the middle of the body and there form a right angle. Both elbows, and therefore also the right, should be at least a handbreadth distant from the trunk.

5. The hand in the act of writing should be placed in such a way that the palm (the inner surface of the hand) is perpendicular to the desk, or only a little inclined to the left. The little finger edge of the palm must not touch the writing surface, the hand must rest on the outer edge of the nail joint of the little finger, which should be slightly bent like the ring finger resting on it, on which again, the middle finger and through it the whole group of the three fingers that guide the pen-holder have to be supported.

6. The pen-holder should be light, thick, not smooth, and suitably long. It should be lightly grasped at a distance of 3 c.m. from the point of the pen, the middle finger should be laid on the holder in such a way that the latter is pressed lightly against the middle of the nail-joint of the middle finger by the thumb lying on the left side. The fore-finger forms a plain curve without any cramping of its joints.

7. The upper end of the holder must be directed towards the elbow, but never towards the shoulder of the writer and be inclined about 45° to the surface of the writing. The pen should not be too fine but somewhat broad and elastic.

8. The writing arm must again and again be pushed to the right so that its successive positions always remain parallel. This gliding takes place on the nail-joint of the little finger, but not on the ball of the hand which should be slightly elevated over the base point of support.

9. The book or paper must, after every line, be pushed up accordingly, in order that a suitable distance may be always preserved between the point of the writing pen and the lower edge of the desk.

10. The upper body ought not to bend forward, the breast should not be supported on the edge of the desk, the head should be bent only s ightly, the distance of the eyes from the writing should amount to from 30 to 35 c.m.

11. The writing never ought to last for a long time uninterruptedly, but should be broken by a few minutes at short intervals, and in the pause thus made easy free-exercises should be executed.

12. With respect to the fact that the first part of the primers hitherto in use is still written in the oblique style, the exercises in the reading and writing of the Vertical Style are to be taken on the black-board so long as no primers with Upright Penmanship are approved.

Other bodies are issuing similar instructions. Indeed .the seven rules drawn up by the Commission on Vertical writing, appointed by the Society of Public Hygiene at Nürnberg, are identical with a corresponding number of those already given from the Bohemia School Board.

How closely these approximate to the English instructions formulated and circulated by the Author seven or eight years ago the reader can observe for himself.

No teacher need have the slightest hesitation in introducing

and adopting the Upright Style and Posture. Even without a knowledge of the principles of the system, it can advantageously be employed in classes and schools with the assurance of satisfactory and superior results.

The only variation on the above canon is in Ornamental Penmanship, a subject which we do not contemplate discussing at length in this work. A passing reference is all that is necessary. The phrase includes the production of Ornate Alphabets such as Old English, German Text and the like, and also the department of Striking or Flourishing which consists in embellishing alphabets or letters with free graceful and intricate curves, and further in striking out animals, birds and other objects in flourishing outlines with the pen. Our Writing Masters from the 16th Century to some fifty years ago excelled in this Artistic acquirement, indeed their specimens of elaborate design and flourish are something wonderful to behold. In order to arrive at any degree of perfection in this branch an immense amount of time and much laborious practice are required. Consequently Ornamental Penmanship is now almost entirely relegated to the lithographer and engraver, as even were it easily acquired (which it is not) the pressure of modern commercial life would render it both superfluous and impracticable. Hence nothing beyond plain Handwriting is taught in our best Schools, and Writing Masters, whose recommendations consisted in the marvellous Caligraphic and beautifully written specimens of flourishing Designs they could display, have disappeared and left not a vestige behind, save in the preservation of some of their Masterpieces in our National Museums and Libraries.

The rules for holding the pen in flourishing are quite different to those obtaining in plain writing. The pen should point quite outwards to the right and the two forefingers must be bent up and not kept straight or nearly so as in ordinary current hand.

CHAPTER VIII

ANALYSIS OF ALPHABET AND LETTERS

THE English Alphabet is both written and printed in two kinds of letters – Capital and Small. In this chapter we are concerned solely with the written or Script Alphabet. So many diversified forms have been given and are at present in use for Script Capitals, and also, but in a much less degree, for small letters that it may be advisable to give a series of outlines, which shall contain as far as possible all the essentials of a clear bold and elegant simplicity, and shall at the same time, by the facility with which they are made, secure the highest possible rate of speed. On this series will be based the analysis which, so far as general elements can be grouped, arranges the letters for class instruction.

The small letters are

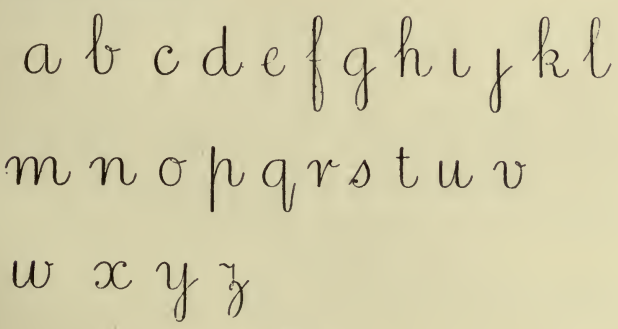
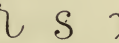


FIG. 27.

with the following duplicate forms  which have a numerous following of ardent supporters. In selecting the

outlines for our Capitals the aim has been to adopt as far as could be done the assimilations to the small letters whenever greater simplicity, ease or speed would be thereby attained.

The Capitals are

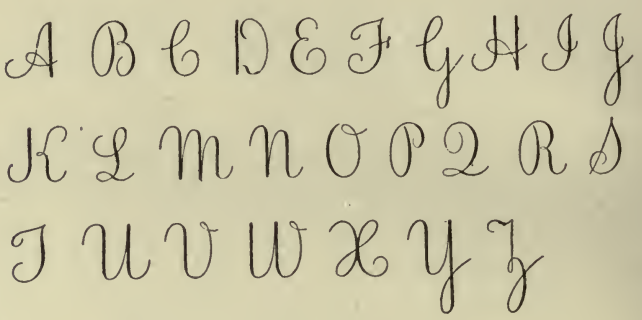


FIG. 28.

The variations on the above are simply legion, but it would be difficult if not impossible to find shorter outlines or plainer.

Returning to the small letters, they naturally group themselves into about eight classes which are fairly distinctive. For all teaching purposes this analysis will be found sufficiently elaborate in its gradation and scientific in its principle of arrangement.

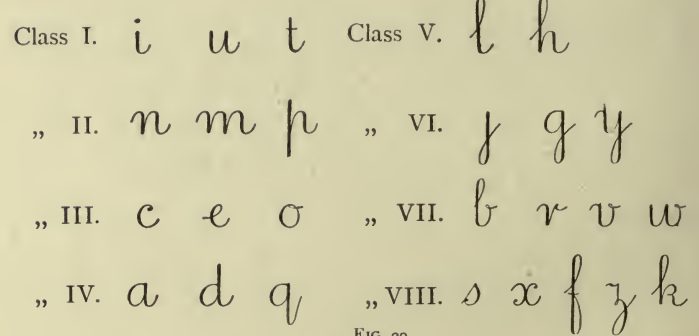


FIG. 29.

Variations on the above scheme can be made without materially affecting the efficiency of the teaching.

Many eminent authorities for nstance object to the early

introduction of the long letters and there is admitted force in their objections. Naturally if we permit expediency to enter into the analysis the scientific aspect and character must suffer, at least to some extent.

Recognising however the strength of the arguments adduced, a second classification is offered which it is hoped will fully satisfy all requirements as to the gradual introduction of the long letters.

Class I. i u n m Class V. t p d q

„ II. c e o „ VI. b h l

„ III. r v w „ VII. j g y

„ IV. a s x „ VIII. f k z

Class I.—The letters consist

Fig. 31.

solely of the right line and the final curve line, which is generally called a link, the dot of the **i** and the cross of the **t** not being constituent elements properly so called. As all words and combinations of letters are written continuously the letters of this class will join each other chiefly at the upper end.

A set of headlines on these three letters will begin with the right line, then the link should be introduced, lastly combinations of the character formed of the right line and link. Even at this early stage the teacher should endeavour to secure perfect rigidity of the down strokes, and strange as it may seem, such honest endeavour will generally be successful.

Class II. introduces but one new element viz. the initial curve or as it is called the hook. Again but three letters

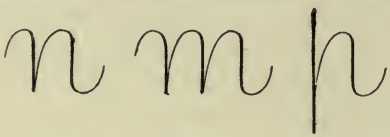
 compose this group one of

Fig. 32.

which, **p**, will offer some difficulty because of its extraordinary length. Why should not English teachers introduce the custom so common on the Continent and begin the **p** at the top of the small letters instead of commencing it so far above them? It would be quite as legible and distinctive.

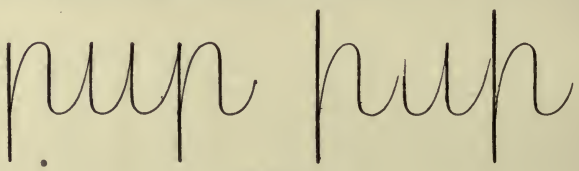


Fig. 33.

For our own part we much prefer the short stroke whether from a practical or an educational standpoint. The junctions in this group will principally be at the foot of the stroke and at or near the top, as shown in Fig. 34.

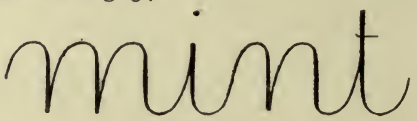


Fig. 34.

Exercises and Headlines on this and succeeding classes will of course contain abundant practice on all preceding letters and classes.

Class III. including the simple curved letters will require some care, the tapering strokes peculiar to

Fig. 35.

being novel and not easy to accomplish. Blackboard illustration with a profuse series of varied headline copies will overcome every difficulty.

In forming the letter **e** the up stroke must never be broken but the up stroke from a preceding letter must be continued without any angular deflection into the loop of the **e** as shown in the diagram (Fig. 36).

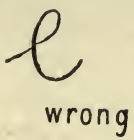


Fig. 36.

With regard to the letter **o** it is begun on the top and not at the side which would necessitate a lifting of the pen.

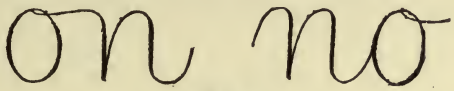


Fig. 37.

Class IV. The three members of this class

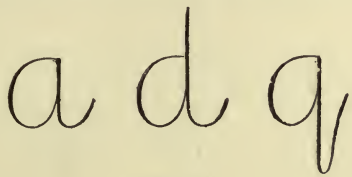
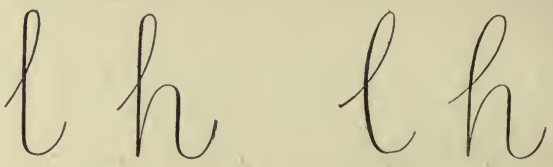


Fig. 38.

are merely adaptations of elements previously given. There is a notion abroad that, since **a** and cognate letters are apparently made up of the letter **o** and other characters, **consequently** a perfect **o** must first be written before the remaining parts of the letters (**a**, **d**, **g** and **q**). To restrict writing to any such arbitrary and rigid laws would be to greatly discount its highest function. And besides such rules are never observed in ordinary penmanship where utility will over-ride all such limiting and cramping regula-

tions. What we must have is simplicity of outline, ease of junction and rapidity in tracing; it is therefore recommended that for purposes of continuity and speed the connecting upstrokes of these letters rise from the outside in large and set small hands, whilst for running or corresponding writing they rise from the inside.

Class V. brings us to the upward loop letters of which the simplest representatives are **l** and **h**. The loop as a rule forms half the extreme length of the letter although in small hand it is slightly longer. The loop should be well and boldly made particular care being taken to guard against the common danger and fault of curving the down strokes, as in the right-hand figure.



RIGHT WRONG

FIG. 39.

Inverting the loops we reach
Class VI. composed of

FIG. 40.

in which the same rules as to length apply so far as the loops are concerned. As previously stated the loops in all letters should be made sufficiently long for legibility, but not a fraction of an inch longer than is necessary to achieve that end.

As in the preceding class the greatest danger will be in the down stroke. It must be made absolutely right or straight.

When loops are curved an insipid and imperfect style is deve-

loped whereas when the rigid right lines are insisted upon the writing becomes strikingly precise, nervous and pleasing.

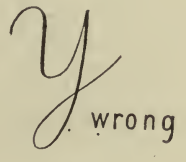


Fig. 41.

Class VII. contains the crotchet letters

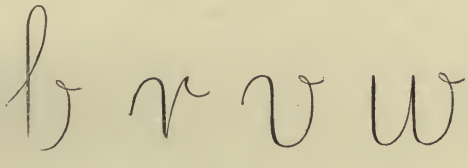


Fig. 42.

The crotchet is not hard to make and the open form is preferable to the closed style as it is made with greater ease and imparts more freedom to writing, although in very rapid caligraphy it resolves itself into a mere angle. Both kinds however are in constant use.

Class VIII. The five remaining letters of the alphabet which form this group have no principle in common, nor can they conveniently enter into any other class.

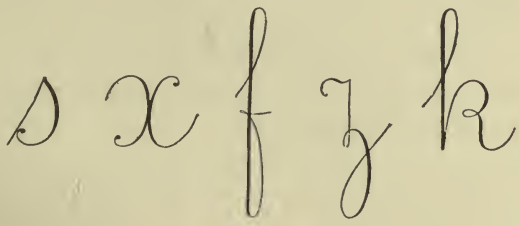


Fig. 43.

The letter **s** rises above the other small letters as does also

the letter r when written in this form. The two following extremes of the **s** must be avoided.

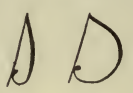


Fig. 44.

X may be considered as formed of two c's placed back to back the first being inverted. This letter has several modifications and it is the only letter that as a rule requires the pen to be lifted in its formation. Two of the modifications however are continuous although neither of them is very frequently met with.

F is a very long letter having two loops both of which should be boldly made as in Fig. 43.

Z is also totally unlike any of its fellows and will require separate treatment.

Ample practice should be afforded on these unique outlines.

Lastly the letter **k** comes in with its compound and difficult

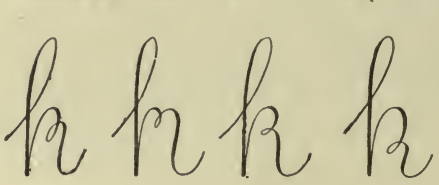


Fig. 45.

curves. How often is it that we see a graceful or a nice-looking **k**? Very seldom indeed, and the four outlines in the adjoining figure are typical of the distortions that do duty for the genuine article.

The Capitals may be dismissed with but few remarks. They are made up primarily of Curves and it is the shape and several or relative sizes of these Curves that cause most trouble.

The characters should be analyzed on the blackboard and fully explained, the relation of the various parts being clearly defined and illustrated.

Afterwards the pupils may be left to imitate their headlines, careful supervision being all that is required. An approximate

classification of the Capital letters is the only possible one, unless the divisions be unreasonably multiplied.

They may be arranged in the following order:

Class I: V, U, W, N, M, Y.
„ II: O, A, C, G, E.
„ III: P, B, R.
„ IV: I, J, T, F.
„ V: S, L.
„ VI: D, H, Q, X, Z.

This or some similar grouping of the Capitals should be followed that the instruction may be properly graduated, the scholars being specially urged to examine and imitate the engraved headline copies, for if the pupil succeed in securing a vivid mental conception of the true outline of any letter he will find little difficulty in transferring that conception to paper; the trouble as previously intimated is not so much with the fingers as with the brain.

CHAPTER IX

METHODS OF INSTRUCTION AND DIRECTIONS FOR CLASS TEACHING

Two methods which have been propounded for the teaching of writing have commended themselves strongly and successfully to the approval of the profession. One of these was elaborated by Mulhauser with whose system every teacher is more or less familiar, the other emanated from Locke. Both methods have their merits and both their disadvantages, as might be expected when the undeveloped character of the art and science of writing at the time is taken into consideration.

Mulhauser's Method is analytic and then Synthetic. He first decomposes the letters into their fundamental strokes, calling these respectively the right line, curve line, loop and crotchet. The letters of the alphabet are then classified according to this analysis as follows :

Class 1. i, u, t, l (right line and link).
„ 2. n, m, h, p (hook, right line and link).
„ 3. c, e, o (curve line).
„ 4. a, d, q (curve, right line and link).
„ 5. g, j, y (loop letters).
„ 6. b, f, r, v, w (crotchet letters).
„ 7. k, s, x, z (anomalous or irregular letters).

As an aid to the pupils the Copy Books are ruled in rhomboids (the style being slanting) to regulate the size, width and slope of the writing.

The advantages of this method are that it is scientific in its analysis, graduated—to an extent—in its arrangement, and

intelligent in its general construction and presentation to the juvenile mind. Many objections have been taken however to the scheme by teachers, some of which are more fanciful than real and others more prejudiced than pertinent. There are certainly however (apart from the vital objection of slope) some few drawbacks, but these do not militate sufficiently to destroy its value as a feasible and workable method on which to teach writing, if teachers will only modify it as the requirements of their classes demand. It will be noticed that the classification given in these pages (p. 96) resembles that of Mulhauser from which it varies only in a slight degree warranted we think by the incongruity of presenting—as Mulhauser does—the very difficult long letters **h** and **l** before such easy letters as **c, e, o,** and elsewhere similarly.

Many of Locke's ideas are forceful, but some are certainly peculiar. He insists that children shall be taught, and perfectly taught, how to hold the pen before they are allowed to make a stroke. He also maintains that large hand shall be taught before small hand, and that writing shall for a considerable length of time consist of tracing over faint red-ink outlines printed in the Copy books. His method may therefore be briefly summarized as follows :

Step 1. How to hold the pen.
„ 2. How to sit and to place the book.
„ 3. Tracing over large hand copies in faint red ink.
„ 4. „ „ small „ „ „ „ „ „
„ 5. Copying from large-hand Headlines.
„ 6. „ „ small „ „

There is an unquestioned advantage, which none can fail to recognise, in teaching a child how to hold the pen at the very beginning of his caligraphic course, but whether it is better to do this before a stroke is made or whilst the strokes are being made is a question for discussion. So long as the right way of holding the pen is secured (and it may certainly be secured by both methods) it will matter very little as to the exact and relative

moment when it shall be accomplished. The tracing, especially so much of it as Locke recommends, is now considered injurious rather than otherwise by the majority of critics. In the most elementary stages tracing is helpful ; afterwards we believe to be harmful. Lastly, beginning with a very large hand is an evil already proved and we need not recapitulate.

The general method prescribed in this manual may be looked upon as being compounded of the two just reviewed, one in which the danger of too much science in the one case, and of too much mechanical art in the other are equally avoided.

In offering, shall we say in presuming to offer, a few directions for class teaching there is great risk in running foul of many old-fashioned and established prejudices. Perhaps on no point connected with School Work is there so great a multiplicity of opinions as to how writing should be taught. No two persons in a hundred will agree on half a dozen given questions. Authors of Manuals on Education, Inspectors, Training College Lecturers, and Teachers are all individually so many separate, independent, and oracular authorities as to how to teach writing.

And we are not now referring so much to methods in general as to processes in particular. Whatever method be adopted "How shall it be taught successfully"? is what concerns us.

Presumably there is a satisfactory answer to this question. It is certainly possible to invest the teaching of writing with an interest that shall render the subject most attractive to the pupils and there is no reason why the writing lesson should not be one of the most fascinating studies in the schoolroom. Of course to attain this the master must first of all be enthusiastic himself, for Enthusiasm is Contagious. To do a thing well it must be done thoroughly ; in the teaching of penmanship equally as in other departments. Teachers must be energetic, lively and earnest, then and not till then will the classes be interested, enthusiastic and determined. It will be found profitable to introduce discussions in the class when such and such outlines are analysed or illustrated on the Blackboard. Intense excitement for instance can be roused on the duplicate forms of such letters as **s, r,**

x, z, and whilst inviting and encouraging the free expression of opinion the teacher can guide the minds of his pupils to a right and sound conclusion by his own matured views and higher knowledge.

Another valuable adjunct is Class Practice on the Blackboard. Nothing in the round of everyday School life is more appreciated by children than this interesting exercise. A certain word or phrase is proposed, and selected pupils are required to write it on the Board. (This selection of pupils should include the entire class in rotation, any preferential distinctions being invidious and quickly detected by the juveniles.) When the Blackboard is filled, or a sufficient number have written, the work of criticism begins and may occasionally be allowed to culminate in a vote as to which is the best line.

During the criticism, which in the hands of the teacher may be rendered highly educative as well as deeply absorbing, and whilst the faults, exaggerations, defects, &c., are carefully noted the scholars should be encouraged to discover the several points of excellence, as it must never be forgotten that Commendation animates the (juvenile) mind and proves one of the most powerful levers at the disposal of the teacher.

A lesson of this kind once a fortnight or so will be eagerly anticipated by the pupils, and it will prove also an efficient and agreeable relief to the ordinary routine of the writing class.

A further variety consists in a given copy being written in different ways by the teacher on the Blackboard, to be inspected and criticised by the class. The zest displayed in criticising his work will be as amusing as surprising, and not the less profitable. Every defect will be keenly scrutinised, every possible shade of opinion expressed and progress proportionately stimulated.

Then again interest of a totally different kind may be introduced by occasional competitions amongst the pupils, such as racing against time or against each other. Let a certain extract be prescribed and instruct the class to copy out accurately, and well, and as quickly as possible until the signal to stop is sounded.

Then the work being collected it is arranged in order of merit, due allowance for quantity being made when marking for quality.

A modification of this exercise is to write a Copy on the blackboard for imitation and repetition during a certain specified time as before. The pupils who are conspicuous for their slowness in these practices should have extra time given them for separate tuition, that they may become more expeditious. If each week the best specimens thus produced were on exhibition in the Class or Schoolroom, the writers would be encouraged to a still greater degree of effort and ambition.

Yet another variation is to get a volunteer to write a copy on the Blackboard and afterwards to criticise it himself. This variation frequently gives rise to very entertaining but also beneficial remarks. Pupils grow increasingly expert at the task and thus insensibly to themselves, the development of their mental appreciation and mechanical ability in the art of writing progresses with great rapidity. A word or two with reference to Home Work. All the labour of the teacher will be greatly discounted if not neutralized should he neglect to strictly supervise the written Home exercises of his scholars. Special marks for neatness in all written work should be awarded, and penalties of varying character be inflicted for deliberate carelessness in this matter. Where the ordinary arithmetical and written exercises are thus made to supplement and support the class teaching, results of the happiest kind will inevitably follow.

A flagrant case of scribble reproduced by the Master on the Blackboard for the adverse criticism of his Schoolfellows will generally act as a specific for either spasmodic or chronic cases, since boys do not relish the idea of being held up to either ridicule or censure from their own companions.

Many other expedients of a similar kind can be resorted to for the purpose of engendering a praiseworthy emulation amongst the writers. Every week will possess its special opportunity and supply material wherewith to point a lesson or adorn a rule. Now it may be a curious manuscript; again it will be an equally curious letter that can thus be utilized. Finally a most powerful stimulus

can be infused into the class by periodically placing the Copy Books in order of merit and exhibiting the list on the Notice Board—a test of their comparative merits which finds favour immensely with the pupils, who are thus encouraged to strain every power in the desire and struggle to get well placed.

The following general instructions for class-teaching include most if not all the chief points that can arise in a writing lesson.

1. Secure and maintain correct position of writers, books and pens.

2. See that every pupil is provided will all necessary material.

3. Remind the class at the beginning of each lesson that the writing must be **uniform** in **Size, Shape and Direction.**

4. Strongly forbid all quick writing.

5. Make a liberal use of the Blackboard for purposes of analysis, correction and illustration.

6. Permit no pupil to remain idle or unemployed waiting for others to finish : let each writer work independently of his fellows.

7. Insist upon continuity in the writing of every word save those in which the letter x occurs.

8. Frequently remind the Class that writing is a kind of drawing and that the sole object is to fac-simile the Copies.

9. Let your motto be approval rather than censure.

10. Pens must not be wiped on the dress nor must ink be jerked or thrown upon the floor.

11. Writers must not paint their letters, that is thicken or mend them after being once made.

12. Always mark the writing relatively, and not apart from the age and ability of the writer.

13. Avoid favouritism ; encourage naturally poor writers ; be severely strict with all careless pupils.

14. Rather give copy books that are too easy than those which are too difficult.

15. Utilize all available Competitions for your classes. The stimulus of " Prizes " or " Rewards " is universally needed in every walk of life, more particularly in a juvenile writing Class.

16. Make a special study of any hopelessly bad writers : never despair of entirely reforming such.

17. Post the names of the best writers and of the most diligent writers on the walls of the Class or Schoolroom.

18. Caution the class against plunging pens to the bottom of the inkwells.

19. Guard against writing too long at once ; relieve by rests in which theory may be illustrated on blackboard.

20. In writing, more than in any other subject, strive to keep the pupils in a good humour.

We shall conclude this chapter with a few hints to writers.

MULTUM IN PARVO.

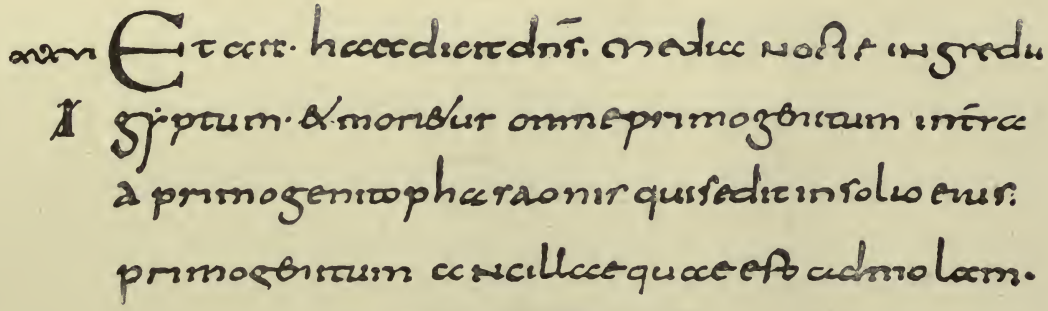
1. Write vertically.
2. Write continuously.
3. Write uniformly.
4. Write plainly.
5. Write slowly.
6. Discard all flourishes.
7. Make the simplest capital letters possible.
8. Avoid heavy or thick writing.
9. Make short loops.
10. Don't grasp the pen tightly.
11. Keep the fingers' ends clear of the nib.
12. Use plain penholders not fancy ones.
13. Avoid striking pen to bottom of inkstand.
14. Use a wet sponge for penwiper.
15. Always keep the thumb slightly bent up.
16. Write evenly with both points of the nib.
17. Push up the book as the writing descends.
18. Sit easy and erect before the book.
19. Avoid all twisting of the body.
20. Keep both arms free from the sides.
21. Point the pen towards the elbow.
22. Keep the fingers easily straight.

CHAPTER X

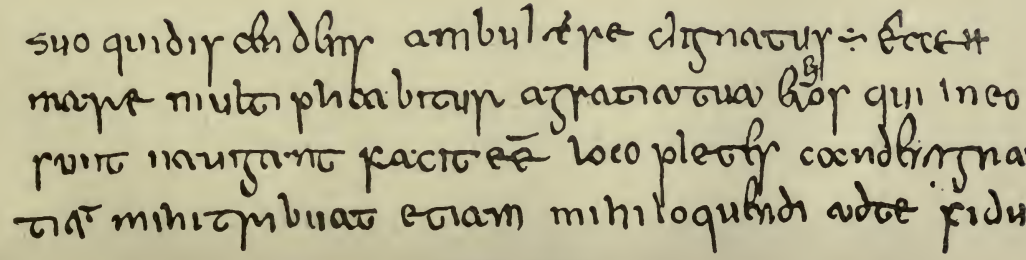
HISTORY OF VERTICAL WRITING AND ITS REVIVAL

THE History of Vertical Writing is the History of all Writing, as, up to about the middle of the 16th century such a thing as Sloping Writing was unknown. In its earliest and crudest forms writing was upright, whether pictorial, hieroglyphic or alphabetical. It has never been definitely ascertained and probably never will be whether writing originated in one centre, radiating thence to other and surrounding Countries, or concurrently in several and all independent of each other. The Mexican and Chinese yield us the most ancient specimens, whilst the honour of discovering the Alphabet alternates between the Egyptians and Phœnicians.

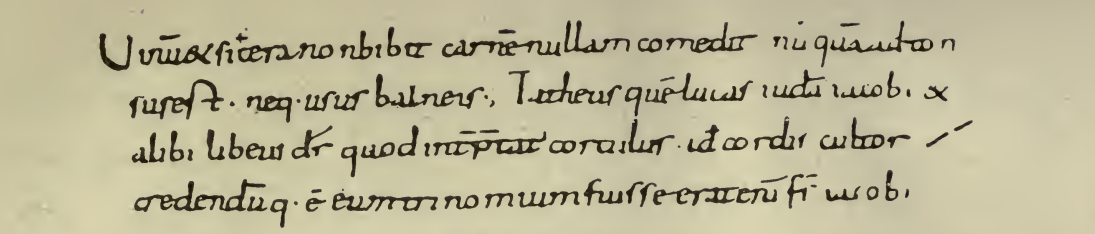
In England and on the Continent alike all writing is vertical until we reach the time of Elizabeth. From about A.D. 596 to the Norman Conquest the writing in Britain was Saxon and of five distinctive kinds. 1. The Roman Saxon, 2. The Set Saxon, 3. The running hand Saxon, 4. The Middle Saxon, and 5. The Elegant Saxon. William the First then introduced the Norman style which like its Saxon predecessor was perpendicular and remained so until the introduction of the Italian Sloping hand as mentioned. The Vertical Style survived much longer in some parts on the Continent but as will be seen from the plates of specimens chronologically arranged (Figs. 46 to 49) German handwriting succumbed to the new fashion much in the same way and at the same time as its neighbours. The posture, erect and straight, adopted by writers in those times is depicted in Figs. 1 and 2, as is also the middle straight position of the book or parchment. In the sixteenth century, then, Lawyers began to engross their conveyances and legal instruments in Sloping characters or letters



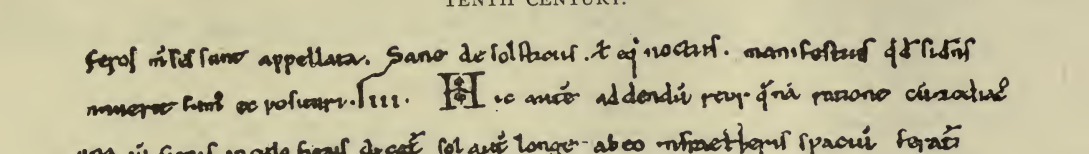
EIGHTH CENTURY, VULGATE.



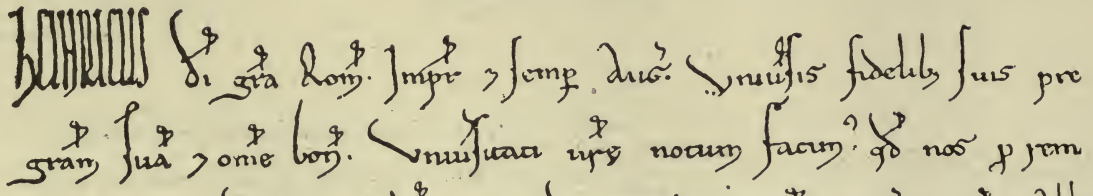
NINTH CENTURY.
FIG 46.



TENTH CENTURY.



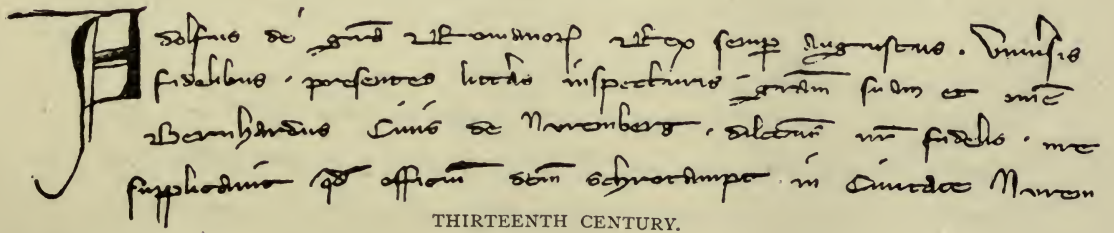
ELEVENTH CENTURY



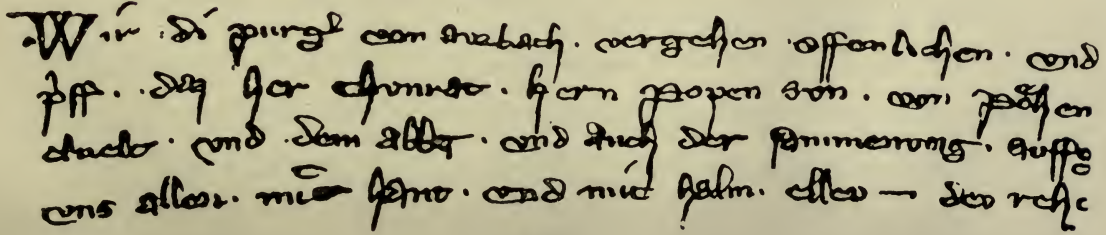
TWELFTH CENTURY.

FIG 47.

THIRTEENTH CENTURY.

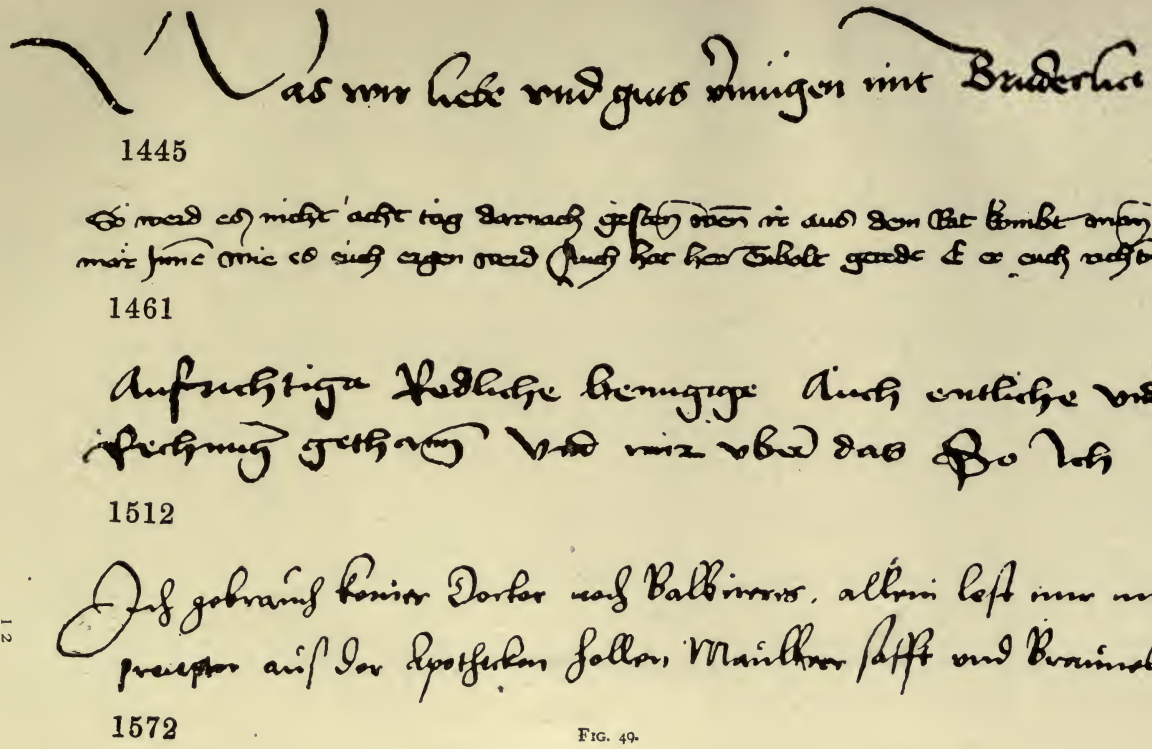


THIRTEENTH CENTURY.



1315

Fig. 48.



1445

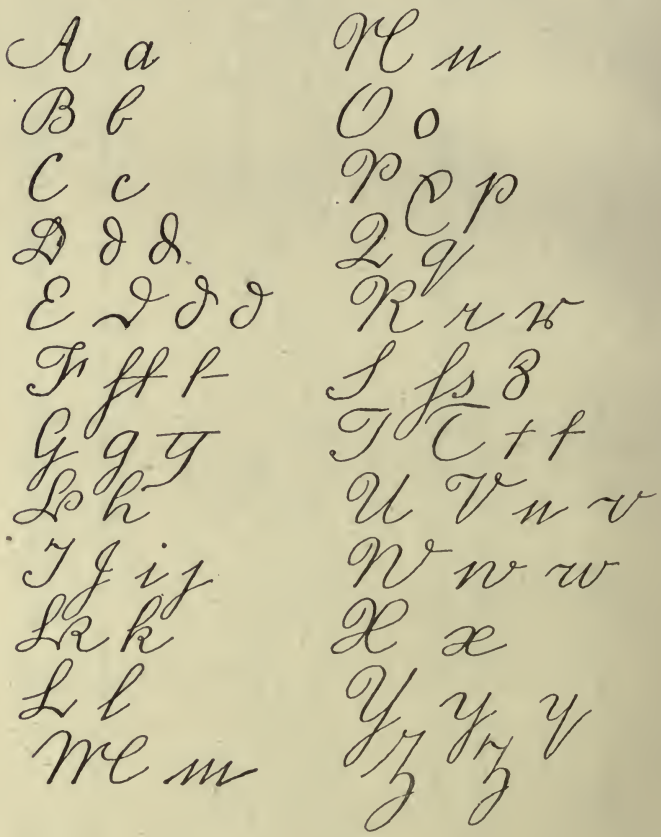
1461

1512

1572

Fig. 49.

called "Secretary" which with only slight modification still survive. These Secretary letters, forming the first loping written alphabet ever introduced into England, are reproduced here as being of a most interesting nature (Fig. 50). It will be noticed on examina-



50.

tion that all the more complex outlines have now been dropped as for instance the **s**, **r**, and **p**, and where not dropped have become much simplified e.g. the Capitals D, H, K, M, N, &c. This sloping alphabet has been in general use for two centuries, Verti-

cal Writing having disappeared one may say almost completely from every department of Caligraphy.

The sloping innovation was considered so favourable to the development of a new art (the art of flourishing) by which Writing Masters could exhibit their wonderful caligraphic gymnastics that it quickly became general and in a comparatively short time universal.

Mysterious and incapable of explanation are the phenomenon and the fact that no recorded serious attempt has ever been made to revive the discarded and forgotten Vertical Style until about seven years ago, when the first Series of Headline Copy Books in Upright Penmanship appeared, as the pioneer of a movement that has grown to most gratifying proportions. Literature on Vertical Writing followed, as did also a still more complete and comprehensive series of Vertical Writing Copy Books, and these may fairly be looked upon as the precursors of a revival that shall replace Upright Penmanship on a foundation, which is as scientific and permanent as it is ancient and unrivalled.

Several remarkable coincidences have attended the revival of Upright Penmanship in England and on the Continent. In the former both Educational and medical strivings and aspirations towards the Vertical were made independently and simultaneously. Indeed it was not until some time subsequent to the publication of the first series of Vertical Writing Copy Books, that the author discovered, quite accidentally, that medical talent had been engaged on a similar quest, had prosecuted a similar investigation, had arrived at the same conclusion, and had given utterance to the same decisions in various books and pamphlets.

The Educational movement was originated and promulgated by a Teacher who had been a Vertical Writer from his youth, and it was therefore the natural outgrowth of a life study, the inevitable development and expression of a long and varied experience, in which the superior claims and advantages of the System of Vertical Writing had been demonstrated repeatedly; and demonstrated, be it added, under circumstances the most unfavourable and crucial. The Medical Investigation which was carried on simultaneously

appears to have arisen from quite a foreign source although it resulted in an identical issue. Spinal Curvature and Short Sight had become so general amongst School-children and were increasing to such an alarming extent, that a special enquiry into the cause of such prevalence by medical men was considered imperative. In the course of this important enquiry many valuable discoveries and suggestions were made, and as previously intimated these researches culminated in the astonishing revelation that, first, Slanting Writing was the undoubted cause of such seriously impaired functions and health, and, second, that Vertical Writing was the only remedy that could be prescribed. The wording of their decision and prescription has already been given, it could not be in more positive and unqualified terms (see page 15).

These concurrent agitations dated from about the year 1870 to the year 1887 when the two forces combined (each being complementary to the other) and now the united powers are concentrating their energies on the same enterprise, and towards the one object of **Establishing the Writing of** Our Country on a Sound Hygienic, Educational, and Caligraphic basis viz. on the principles of Upright Penmanship.

But stranger still, whilst all this was proceeding in Great Britain an exactly identical and dual movement was being prosecuted in several centres on the Continent with precisely similar features, the Medical taking the lead or predominating over the Educational as it has done at home.

Teachers in Switzerland, Wurtemburg, Austria, Germany and Denmark, as well as in England, strongly resented this imaginary encroachment upon their rights; and that they therefore denounced the finding of the Doctors as an infringement of their prerogative goes without saying. "Was it to be thought or even dreamed of "that teachers did not know what they were about? that the entire "profession had been teaching an absolutely pernicious style or "System of Writing for all these years and generations? Perish "the thought! Doctors were—well, to put it mildly—mistaken, "and knew nothing about Educational matters at all!"

Unfortunately a lamentably large number of teachers, both at

home and abroad, still shelter themselves behind this disreputable and unworthy protest, wilfully closing their eyes and ears to the evidence and facts, and refusing to be either convinced or converted. This kind of opposition soon melted away on the continent and resolved itself into a much modified but rational mode of objection. As will be seen immediately, the logic and facts of the Experts have won a hearing and established their verity, thus opening up avenues along which "Vertical Writing" is rapidly riding on to victory. But here the phlegmatic character of the Britisher asserts itself for notwithstanding the most vigorous circulation of literature on the subject, despite the unanimous and united testimonies of hundreds of professional gentlemen both Medical and Scholastic, and in the very face of the numerous triumphs of the System wherever introduced, the "English Teacher" is in many cases supremely indifferent to the matter, the Educational Press gently pats Verticality on the back, whilst the English Government and Education Department appear to be oblivious to the whole question. (See note, p. 125.)

If we cross the channel what a contrast meets us. Teachers there have become alive to their responsibilities in the matter, large numbers of the most prominent educationists have embraced the system and adopted it; numerous teachers are using and recommending it; Educational Societies and Corporations are pronouncing in favour of it; Hygienic Councils are approving of and promoting it; and Cabinets are not only sanctioning its use but prescribing it in the schools of their dominions. The crusade is active and countries are rivalling each other in their endeavours to be in the van. From a voluminous correspondence with Drs. Bayr (Vienna), Kotelmann (Hamburg), Lorenz (Vienna), Scharff (Flensburg), Schubert (Nuremberg) and other eminent Physicians and Teachers it appears that "Vertical Writing" is being adopted eagerly by the profession in many districts of these countries. In Vienna alone for example Upright Penmanship is practised in no less than 80 Schools with 300 classes, and by 100 Schools in Bavaria. A brief epitome of the chief events in the history of this agitation on the Continent will not be out of place.

The question as to the importance of Slope or direction in writing was raised by Drs. Ellinger and Gross in 1877–8, with the result that Roman characters with vertical downstrokes were recommended in preference to sloping German letters. Dr. Martins of Ansbach district Medical Officer of health next brought the subject before the Central Franconia Medical Chamber in 1879. In the following year Dr. Paul Schubert addressing the same Medical Board made an attempt to show that perpendicular writing must supersede the present sloping style, and Dr. Cohn at the Naturalists' Congress in Danzig simultaneously declared himself for "steep" writing, being quite in ignorance of Dr. Schubert's action. Following immediately upon this come investigations by Drs. Mayer (Fürth), Daiber (Stuttgart), Weber (Darmstadt) and by the Paris Commission who in a body declared themselves in favour of Vertical Writing. * Opinions were of course still divided, and in his prize essay on the Causes and Prevention of Blindness, Professor Füchs declared that the final decision was only to be arrived at from experiments, systematically conducted, in Vertical Writing in whole classes and beginning with the first school year. It was reserved for the Central Franconia Medical Board, which at its sittings never lost sight of Upright Penmanship, to attack and promote this question bringing it nearer to the final issue. In consequence of a motion passed in 1887 by this board, The Royal Bavarian Ministry of the Interior decided that experiments in Vertical Writing should be undertaken in Schools, on a larger scale. Hence in the Autumn of 1888 two first classes of the public School in Fürth and two similar ones in the training college in Schwabach began instruction in writing exclusively in the perpendicular style. These experiments were supplemented in the Autumn of 1889 by three first public School classes in Nuremberg as well as by the first class for preparation of the humanistic gymnasium. At the same time perpendicular writing was introduced into a series of Classes by Dr. Bayr in Vienna and in Flensburg under Principal Dr. Sch rff.

From all these schools the experiences were most favourable to Vertical Writing. The declaration of its superiority in relation

* See Dr. Javal "Physiology of Writing," Pocket Pedagogical Library, No. 2.

to erect healthy postures has been verified and confirmed to the fullest extent, whilst as to speed both Drs. Bayr and Scharff testify to the greater rapidity with which Upright Caligraphy can be produced. "My best vertically writing scholar requiring 24 "minutes whilst the best oblique writer required 30 minutes to "write off a certain prescribed poem."

The results obtained by Miss Seidl municipal teacher at Vienna are identical and equally gratifying.

Her letter on the point is so interesting that we reproduce a translation of it.

"My female pupils whose instruction I directed from the first "class onwards till they passed over into the City middle class "school (i.e. for five years) during the four school years from "1885–6 to 1888-9 wrote the usual sloping writing with oblique "middle position with a 30° to 40° angle of inclination of the "copybook marked on the desk before them.

"At the beginning of the school year 1889-90 I introduced "some of my pupils to Vertical Writing whilst the others kept "to Sloping Writing. In this way it was possible to ascertain "in the course of a year by personal inspection what were the "essential advantages which Vertical Writing offers over Sloping "Writing.

"During the whole of my nine years' experience in the School "I contended with all conceivable means against the crooked "sitting and oblique vision of the children in the writing lesson, "but I must honestly admit it without the desired result, and in "the cases where I obtained a good bodily posture, the Cali-"graphic outcome did not correspond to the demands hitherto "made by Sloping Writing, that is to say it was too steep or too "near the Vertical.

"What I with Sloping Writing obtained only in an imperfect "way in spite of long and tiring effort, Vertical Writing made "possible even in a few weeks of its use—viz. a fine upright "position of body, avoidance of the harmful inclination of the "head, and of the no less injurious leaning of the chest on the "desk.

"From the correct attitude of body follows also a greater "distance of the eyes from the writing. The pupils wrote "throughout—some very short-sighted ones excepted—with the "normal distance of the eyes from the Copybook, several indeed "with more than the normal distance.

"The transition from the Sloping Writing, which had been "practised for four years, to Vertical Writing involved no kind of "difficulty to the children, either in regard to posture of body or "in technical respects.

"As regards faultless posture and beauty of Writing, all the "pupils yielded thoroughly satisfactorily and indeed often "surprising results. In a short time most of the Vertical Writing "children made twice as great improvement in their Writing, a "large number even four times as great.

"On comparing a Copybook in which the Writing is at first "Sloping and afterwards Vertical, it could be seen with satisfac- "tion what an incomparably more favourable impression Vertical "Writing made on the beholder in contradistinction to Sloping "Writing.

"In respect to rapidity of production too I have met with no "difficulty of any kind as regards keeping the lines parallel to the "edge of the desk and maintaining the correct attitude. Indeed "in Writing Competitions undertaken for the purpose of putting "the question to the test of experiment, many of the Sloping Writing "children fell behind those who wrote Vertically.

"In respect of clearness and legibility, and therefore beauty of "Writing, specimens of Sloping and Vertical Caligraphy and "rapid Writing show a very significant difference, decisively in "favour of Vertical Writing.

"Finally it should be remembered too, that School Discipline "finds a great support in Vertical Writing, because it renders "possible a better and easier supervision of the children in the "Writing lesson.

"CAROLINE SEIDL, Teacher.

"Vienna, November, 1890."

Many associations of teachers as well as individual Headmasters have approved of and adopted the Vertical Writing, e.g. the Lubeck Association in May 1891, so that now in a very large and increasing number of cities and centres the new system is making rapid headway. It can therefore be safely stated that in Switzerland, Germany, Austria, France and Denmark the Vertical Writing has got a sure footing and has every prospect of making good its claims and position.

The Royal Bavarian Ministry prescribed Experimental adoption of Vertical Writing on a larger Scale 1892.

The Royal Imperial National School Board of Brüm (Moravia) decreed Experimental Introduction of Vertical Writing in its Schools for School year 1891–2.

The Royal Imperial District School Board Inschkau Bohemia in June 1891 decreed the discussion of Vertical Writing in the Conferences. Consequently some 500 Schools have adopted it.

The Imperial Educational Authority of Grand Duchy Baden ordered experimental introduction of Vertical Writing into their Schools.

The Berlin Teachers' Union requests City School Commission to introduce Vertical Writing experimentally.

In Troppau (Austrian Silesia) the District Teachers' Conference unanimously resolved to introduce Vertical Writing into all public and City Schools.

The Educational Authorities have already set on foot the practice of Vertical Writing in Frankfort on Maine.

In Flensburg all save three schools write Vertically.

Dr. Bayr says that "over 400 Educationists have visited the "Vertical Writing Classes in the Institution under my control; "enquiries are coming in from every side."

The Royal Imperial National School Board Bohemia (May 1891) declared:

1. Vertical Writing to be preferable to Sloping Writing from the Hygienic Standpoint; and also
2. Declared itself favourable to the Experimental introduction of Vertical Writing into its Schools.

The twin Resolutions of the Vienna Council and the London Congress are a very fitting consummation to the sister campaigns and to the previous deliverances of authoritative Educational and Medical Corporations to which reference has been made throughout the pages of this work. The appended list of Congresses, Councils and Celebrities, the latter distinguished for their scientific and educational attainments, who after patient and exhaustive research aided by profuse experiments have emphatically declared in favour of Upright Penmanship will indicate the extent of the reaction on the Continent.

Congresses and Councils.

1. Naturalists' Congress, Dantzic, 1880.
2. Medical Council of Middle Franconia, 1887.
3. International Congress of Hygiene, Vienna, 1887.
4. ,, ,, ,, Paris, 1889.
5. German Educational Union of Prague, 1891.
6. Royal and Imperial School Board, Bohemia, 1891.
7. Imperial and Royal Supreme Council of Hygiene, Vienna, 1891.
8. Seventh International Congress of Hygiene and Demography, London, 1891.

In addition to the above many other Corporations have approved of and recommended Vertical Writing as the Lubeck Association, previously referred to, The Paris Commission and the Buda-Pesth Supreme Council of Education. The Supreme Hungarian School Board in March 1891 prescribed Experimental adoption of Vertical Writing by its Schools.

University Professors and Medical Specialists.

1. Professor Gladstone : School Board for London.
2. Mr. Noble Smith : Surgeon and Specialist, London.
3. Professor Dr. Joseph Heim : Chief Physician of the Theresian Academy, etc., Vienna.
4. Professor Dr. E. Fuchs : Ophthalmologist and Specialist, Vienna.
5. Professor Dr. Toldt : University Professor of Anatomy, Vienna.
6. Professor Dr. Paul Schubert : Oculist and Specialist, Nuremberg.
7. Professor Dr. A. von Reuss : University Professor, Vienna.
8. Professor Dr J. Csapodi : University Tutor of Ophthalmology, Ystvan.

9. Professor Dr. Julius Dollinger: University Professor and Member of National Council, Hungary.
10. Professor Dr. Albert: Commissioner of Health and Specialist on Spinal Curvature, Vienna.
11. Professor Dr. J. von Fodor: Specialist on Hygiene, Buda-Pesth.
12. Professor Dr. Alois Karpf: Custodian of Library and Royal Commission for Entails, Vienna.
13. Professor Dr. Kotelmann: Educationist and Editor of Journal of School Regimen, Hamburg.
14. Professor Dr. Axel Hertel: Medical Officer, etc., Copenhagen.
15. Professor Dr. A. Lorenz: University Professor, Vienna.
16. Dr. W. Suppan: Director of Academies and Member of National Council of Education, Hungary.
17. Dr. Martius: Medical Officer, Ansbach.
18. Dr. Glauning: Examiner for the City Schools, Nuremberg.
19. Dr. Weber: Darmstadt.
20. Dr. Lochner: Medical Officer, Schwabach.
21. Dr. G. Merkel: Medical Officer and President of Medical Council, 1879, Nuremberg.
22. Dr. W. Mayer: Specialist and Medical Officer, Fürth.
23. Dr. O. Sommer: Brunswick.
24. Dr. A. Scharff: Educationist, etc., Flensburg.
25. Dr. Gouber: Commissioner of Health, etc., Vienna.
26. Dr. E. Hannak: Principal of the Vienna Training College.
27. Dr. Karl Stejskal: Royal Imperial School Inspector, Vienna.
28. Dr. Franz Wiedenhofer: Vienna.
29. Dr. E. Bayr: Headmaster of City of Vienna Public School.
30. Dr. Karl Tomanetz: Vienna.
31. Dr. Daiber: Stuttgart.
32. Dr. Krug: Dresden.

&c. &c. &c.

Dr. Eulenger declared for Vertical Writing in 1885.

The celebrated oculist Dr. Hermann Cohn after visiting Vertical Writing Classes at Vienna has declared for the Upright System (1892).

Inspectors, etc.

Alois Fellner: Imperial and Royal Inspector, Vienna.
Laurenz Mayer: Imperial and Royal Inspector, Vienna.
Franz Klima: Imperial and Royal Inspector, Littan, Moravia.
L. Wiesmann: Secondary Teacher, Winterthur.
Francis Waas: Member of School Board, Vienna.

Note: Since the passage on p. 119 was first written, a change has come over the spirit of the scene, and many signs of vitality and growing interest have exhibited themselves both amongst

teachers, the Press, and the Education Department. The last-named has made a material advance, and from being antagonistic have now declared that "The revisors of Handwriting for the "Education Department" (Whitehall) "will place Vertical writing "on the same footing with other styles of writing." Through many of its representatives (H.M. Inspectors) the Department speaks still more decisively in favour of Upright Penmanship. We quote from the Blue Books of 1890, 1891, and 1892 : "Vertical Writing "appears to be most easily taught, and to be the best for the right "physical conditions of the eyesight and the spine" (Rev. T. W. Sharpe, M.A., Senior Chief Inspector).

"Many schools are now adopting the Vertical style of writing. "It is said to be easily acquired, and to enable the children to "adopt a more upright and therefore more healthy posture while "writing. It has also the merit of clearness and legibility, so "that I have no doubt it will spread" (Rev. C. F. Johnstone, Chief Inspector).

"A growing tendency to an Upright rather than a sloping "style" (R. Ogilvie, Esq., M.A., LL.D., Chief Inspector).

"Handwriting has improved, especially in those schools in "which the Upright style of writing has been adopted" (F. B. de Sausmarez, Esq., H.M.I.).

Another Chief Inspector says "The writing was about the "best I have seen. The boys are taught the Upright or Jackson's "Style."

Then finally the attitude of the Press has entirely changed; from being cynical, then patronising, it has become appreciative and sometimes enthusiastic. There is no doubt whatever that all classes of the community are recognising the claims of Upright Penmanship more widely every day, and that the lethargy of the past is quickly disappearing and giving way to an interest which occasionally rises to excitement.

CHAPTER XI

BIBLIOGRAPHY WITH SHORT DESCRIPTIVE NOTICES

THE following list may be accepted as fairly representing the literature on the subject of Penmanship and Handwriting published during the present century, so far as it affects the question of Education. Many small brochures are omitted as their insertion could serve no good purpose. It will be found that the majority of these publications are merely collections of specimens of the Engraver's skill, and also of the writer's ingenuity as indicated in most intricate and beautiful designs in flourishing and ornamental lettering, and that the remainder are more or less books of instructions, hints or directions how to write or how to become a good writer, one or two of these containing suggestions on how to teach the art. Few could imagine the anomalies and contradictions with which these manuals abound when compared with each other, in regard to every point connected with the science and art of penmanship. A somewhat entertaining diversity of opinion e.g. on the position of the body may be referred to where elbows must be **close in** to side and **not touching** the side ; where the body must be absolutely erect but at the same time bending forward : and where it must be able to present the right side the left side and the Chest front all simultaneously to the front edge of the desk. Rather a difficult feat for an ordinary individual we imagine !

748 " The Art of Writing " illustrated with eight copper plates. John Newbury, London. 16mo. To which is added a collection of letters and directions for addressing persons of distinction, etc., with some six pages of " General Instructions for young Practitioners in the art of Penmanship."

1795 "The Penman's Repository." Wm. Milns. London. 4to. 36 plates. Containing 70 correct alphabets, a valuable selection of flourishes, and a variety of new designs.

1801 "The Select Penman." London. 8vo. "Consisting of copious extracts from all the most excellent performances now in esteem. Being alphabets, copies, sentences, etc., in all the Hands carefully digested and beautifully engraved on twenty copper plates by the best hands."

1803 "The Origin and Progress of Writing." Th. Astle. London. Folio. A most admirable production, illustrated with valuable and numerous plates. The talented author has done his work well, and has written a book which for thoroughness, detail, information and originality is a standard of reference and a classic on the subject.

1804 "The Art of Reading, Writing, etc." London. 8vo. A general handbook of 44 pages containing miscellaneous hints on "Writing a free and expeditious hand which may be attained in a few days." (!) Some plates of headlines are inserted.

1805 "Geographical and Commercial Copies." H. Genery. London. 8vo. Twenty-six plates of Copies (chiefly plain) in various sizes of writing, with some ornamental alphabets.

1809 "New Universal Penman." Butterworth. Edinburgh. Folio. Thirty-two large plates of Capitals, Designs, Plain and Ornamental Lettering, Writing Copies, and Flourishings.

1810 "The Desideratum of Penmanship." G. C. Rapier. Leeds. 12mo. "The true principles by which to teach the art." Fourteen plates of letters (small and capitals) and headlines with seven pages of text supplying instructions as to position, etc.

1814 "Writing on an Improved Plan." London. 8vo. Four pages of directions and six plates of exercises.

1815 "Superior, Free, Elegant, and Swift Writing." G. B. King. London. In six lessons to which is added a System (entirely new) for writing exercises. Six pages of text and six plates of specimens.

1817 "The Preparative Writing Book." J. Dobbin. London. 4to. Twelve plates of Headlines with lines ruled for writing. (A copy book of 12 pages.)

1835 "Autographs" of Celebrated Personages. J. Netherclift. London. Fol. Several plates of grouped autographs.

1839 "Plain and Ornamental Penmanship." F. D. Sutcliffe Warley. Manchester. Fol. Five large plates of designs in plain and ornamental Penmanship.

1840 "Flowers of Penmanship." W. Paton. London. Folio. Fourteen plates illustrative of Ornamental Penmanship and Lettering with portrait of Author. No text save preface.

1842 "Penmanship." H. B. Foster. Boston, U.S. 12mo. 88 pp. Fifty-two pages of instructions for positions, analysis of letters, formation of Capitals, etc., with thirty-six pages of headlines in red for tracing over.

1844 "Beauties of Writing." T. Tomkins. London. Fol. Forty-one

plates of plain and ornamental writing, Ornamental Lettering, Flourishing and intricate designs.

1849 "A collection of one hundred letters." J. Netherclift. London. Fol. This work is interesting on account of the variety in style of the writing.

1853 "The Origin and Progress of the Art of Writing." H. N. Humphreys. London. 4to. 176 pp. Illustrated by 28 plates and 29 woodcuts. The origin of Writing and its history traced through the Mexican, Chinese, Egyptian, Assyrian, Babylonic and Persian (Cuneiform), Phœnician, Hebrew, Greek and Roman or Latin, to the Modern National Styles of Writing in Europe, concluding with an account of the writing material of all ages.

1855 "Ornamental Penmanship." G. J. Becker. Philadelphia. 8vo. Thirty-three plates of plain and Ornamental type and Script Alphabets.

1858 "Writing without a Master." London. 8vo. A preface, four pages of remarks on positions, six plates of Headlines in Smallhand (with notes) and sixteen blank leaves for exercise are supplied in this manual.

1858 "Handbook of Autographs." F. G. Netherclift. London. 8vo. A most interesting collection of Autographs.

1859 "The Penman's Manual." New York. 36 pp. A practical Manual on Business Handwriting, with rules, numerous illustrations and two plates.

1860 "The Art of Writing." J. A. Cooper. London. 8vo. Twenty plates of small hand graduated copies, preceded by an essay on the Art of writing and 5 pages of general directions.

1862 "Ornamental Writing." Hardy. London. 8vo. Six plates of Alphabets, ornamental lettering, and Script.

1862 "The Commercial Penman." E. A. Porteus. London. 4to. A title page, twenty-four plates of Commercial letters, and 24 blank leaves for exercise.

1862 "Designs for Illuminated and Ornamental Letters." E. A. Porteus. London. 16mo. Four plates of designs for illuminated and ornamental lettering. No text.

1866 "Autograph Album." J. Philips. London. 4to. This is a very valuable selection.

1873 "The Art of Rapid Writing." W. Stokes. London.

1875 "Judging Handwriting." E. Lumley. London. 16mo. 176 pp. The art of judging the character of individuals from their Handwriting and Style with 35 plates containing 120 specimens of writing.

1877 "Compendium of Practical Penmanship." Daniel T. Ames. New York. 4to. Forty-eight beautiful plates of (twenty-four) plain and ornamental alphabets, with most intricate designs in flourishing and Ornamental Penmanship.

1879 "The Philosophy of Handwriting." Don Felix de Salamanca. London. 8vo. An introduction on Writing in general followed by 135 autographs of various celebrities with notes on each.

1880 "Character indicated in Handwriting." Baughan. London. 8vo. One hundred Autographs with notes and explanations.

1880 "Practical Penmanship," or how to acquire a good Handwriting. W. D. Prior. London. 8vo. Numerous illustrations, examples, and practices. Hints on Position and Desk with a few remarks on Ornamental Writing.

1882 "Penmanship." C. H. Mitchell. London. 8vo. 38 pp. Introduction; Attitude; Holding the Pen; Appendices A to E (plates of Models).

1886 "Guide to Beautiful Handwriting." J. Barter. London. 8vo. 48 pp. A series of copies in plain and ornamental writing, each copy being preceded by directions, concluding with some specimens of flourishing.

1887 "A Manual of Handwriting." F. Betteridge. Bradford. 4to. 55 pp. "prepared for Junior teachers." A course of 19 lessons with notes; also remarks on Desks, Postures, German Time-writing and Capitals. Copiously illustrated.

1887 "According to Cocker." The progress of Penmanship from the earliest times, with upwards of twenty illustrative examples from "Penna Volans," and other old works on the subject. By W. Anderson Smith. There are nearly 30 pages of text giving the barest outline of the progress of Penmanship, and six of those 30 pages deal exclusively with the incidents of Cocker's career.

1888 "Writing and How to Teach it." J. C. Sharp, M.A. London. 8vo. One hundred short lessons for the guidance of teachers; diagrams, of copies and errors, accompany each lesson.

1888 "Writing Simplified." Freeman. London. 8vo. Thirty pages of plates and some text in which a new longhand alphabet is given, also a style of shorthand with observations on parallel symbols of Holy Writ.

1889 "Rapid Writer, Own Instructor." D. Dixon. Preston. 8vo. 40 pp. A collection of Alphabets, Headlines and Specimens of flourishing, with general hints and instructions.

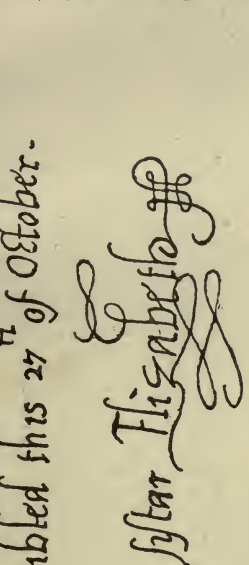
1889 "Prize Specimens of Handwriting." London. 12mo. Being the four £5 prize specimens and others (thirty-two in all) gaining special distinction in the Competition offered by "Tit Bits." It is worthy of note that both (and the only) ladies gaining the £5 prizes were **Vertical Writers.**

1891 "Art of Handwriting and how it should be taught." Hughes, London. A collection of some 14 full-page engravings, and other diagrams, with about 32 pages of text. "Specially prepared for the use of pupil teachers and students in training colleges."

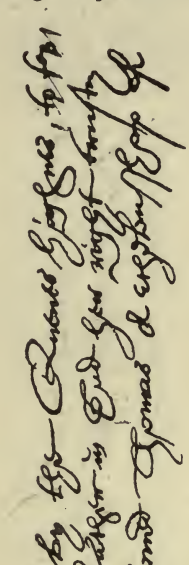
APPENDICES

APPENDIX I

CONTRASTS or specimens of the two styles of caligraphy written (as in Fig. 51) by the same persons ; save in Figures 52 and 61.

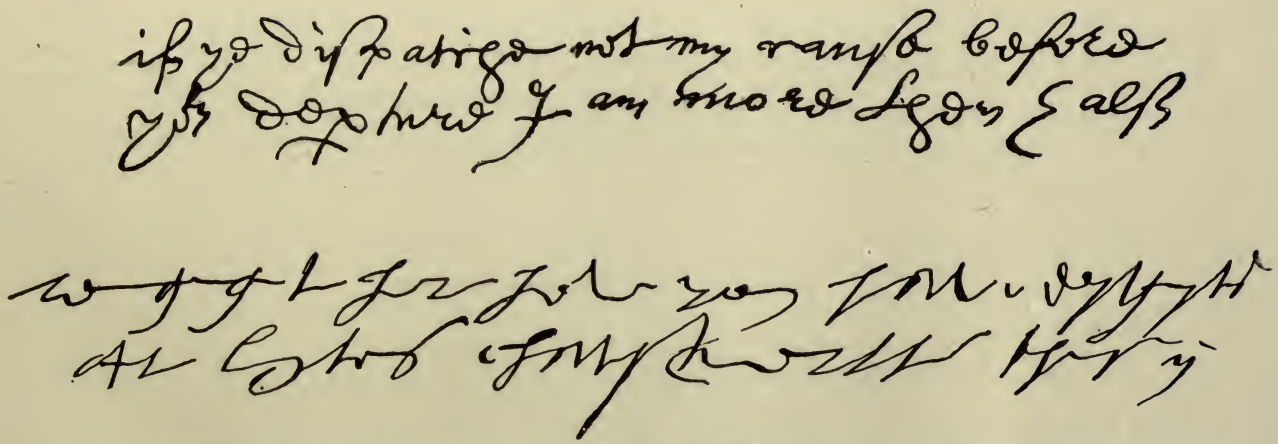


Queen Elizabeth's **Upright** style.



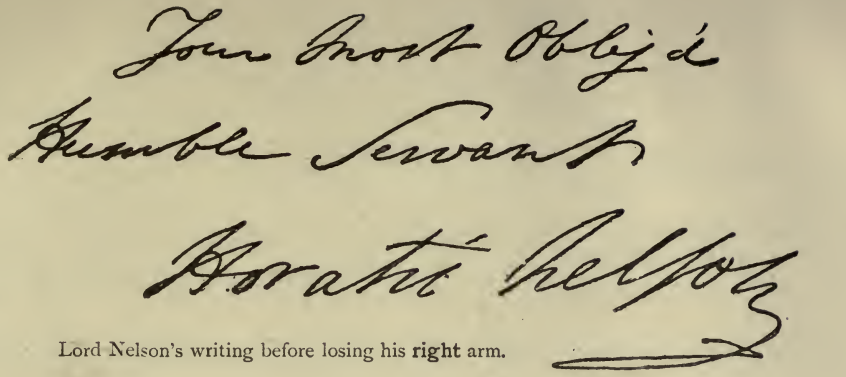
Queen Elizabeth's **Sloping** style.

FIG. 51.

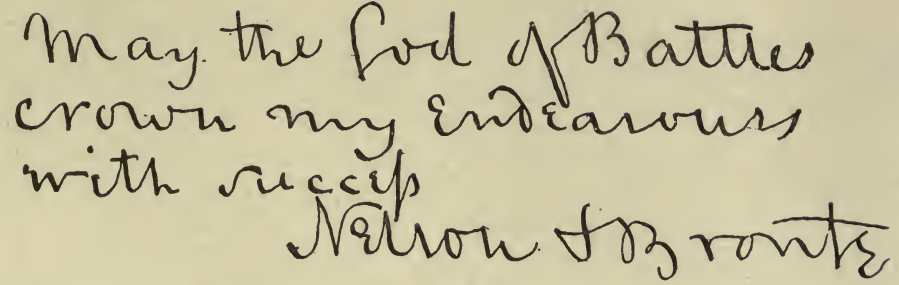


Further specimens of the Italian style during the reign of Elizabeth. These facsimiles are remarkable as exhibiting the extremely demoralizing influence of the Sloping style.

FIG. 52



Lord Nelson's writing before losing his **right** arm.



Lord Nelson's writing with his **left** hand after losing his right arm.

FIG. 53.

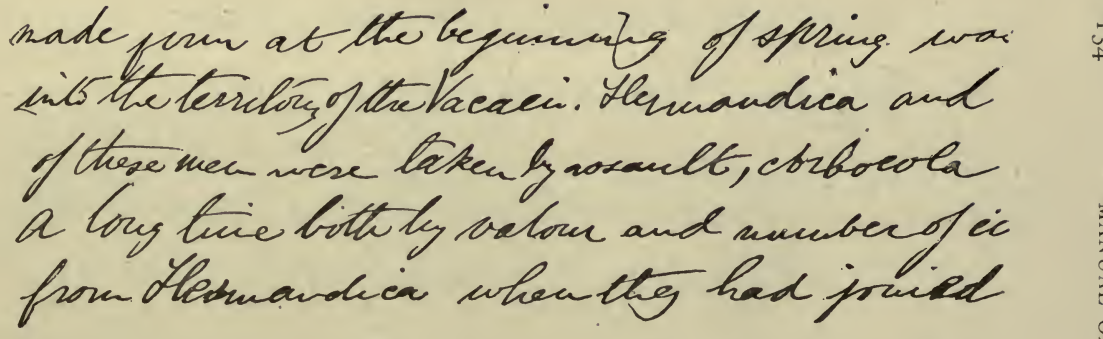


FIG. 54.—After three months' practice in the Vertical Style at School.

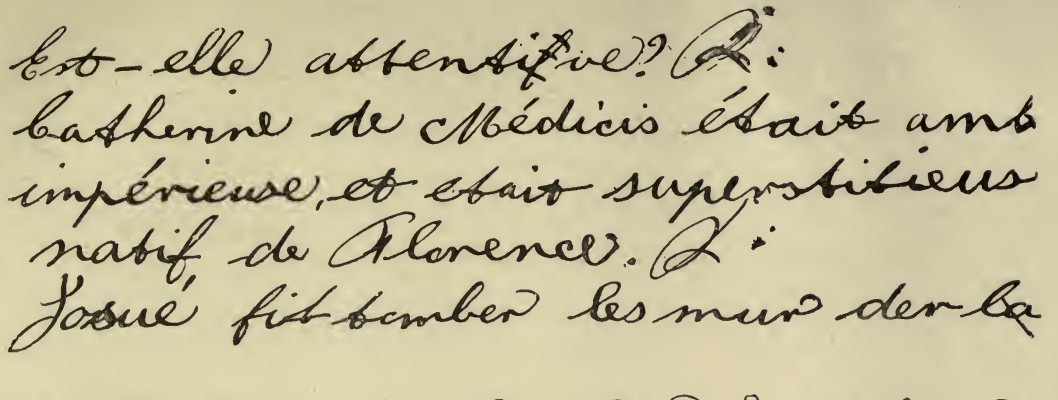


FIG. 55.—After six months' tuition in the Vertical Style at School.

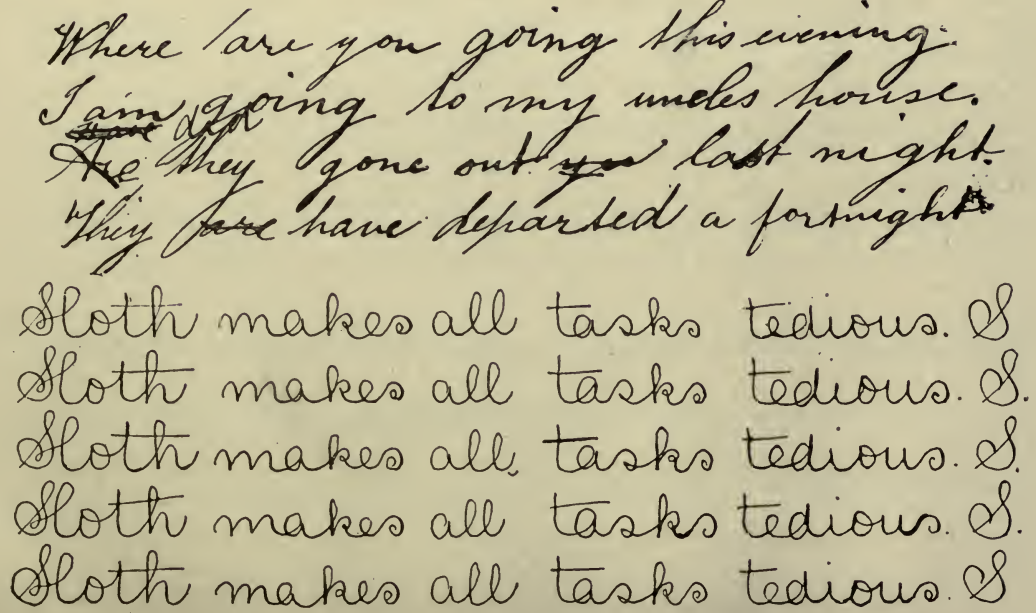


FIG. 56.—After two years in the Vertical Style at School.

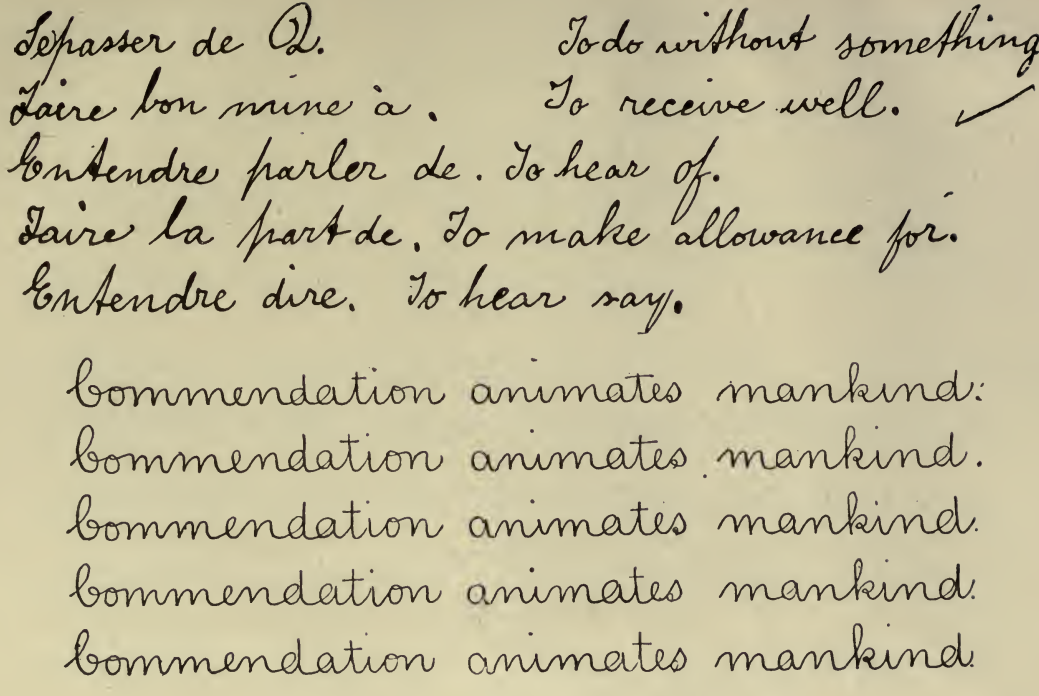


FIG. 57.- After twelve months' tuition in the Vertical Style at School.

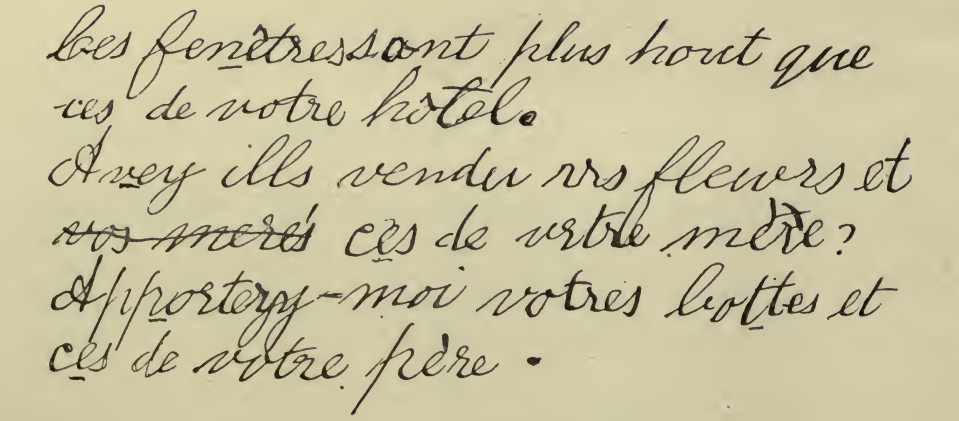


FIG. 58.—After two years at School in the Vertical Style.

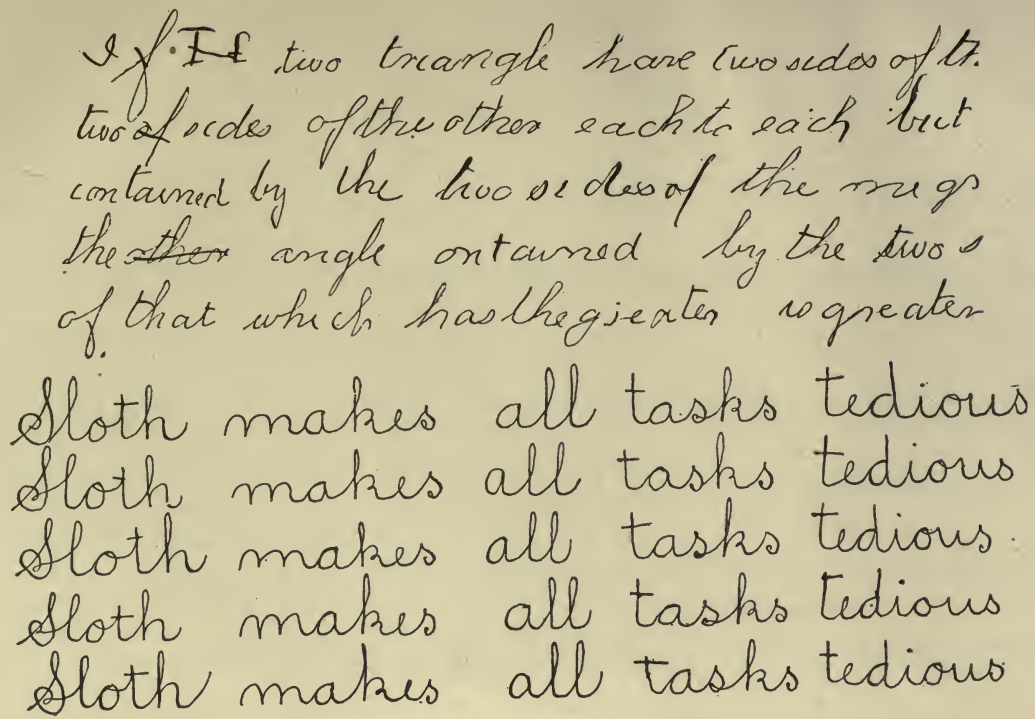


FIG 59.—After one year at School in the Vertical Style.

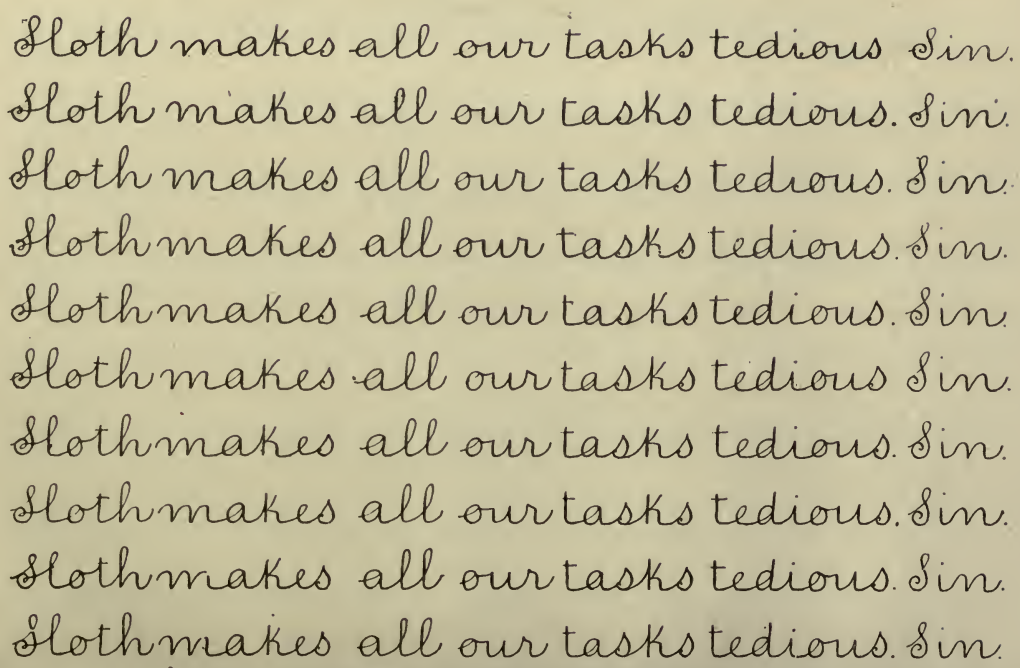


FIG. 60.—After two years at School learning the Vertical.

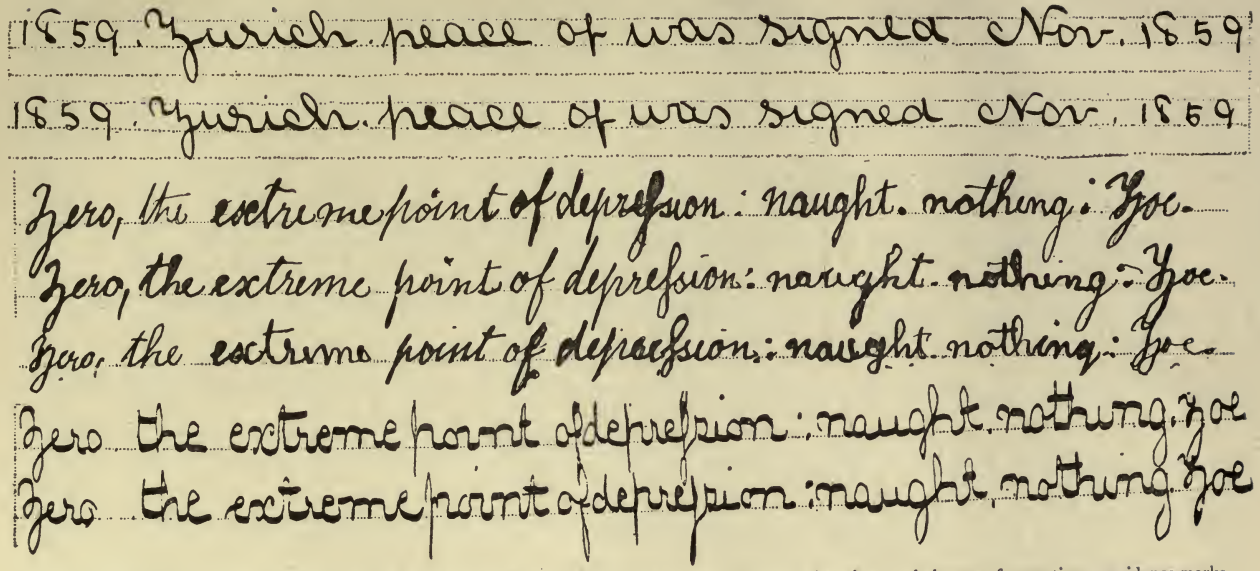


FIG. 61.—Specimens f pupil's writing taken from the last pages of the Copy Books, in each of which there is a total absence of correction or guidance marks.

APPENDIX II

"On Perpendicular Writing in Schools" A Lecture delivered by Dr. Paul Schubert, on the 23rd Oct: 1890 before the Society of Public Hygiene at Nuremberg.

The proposal to replace the customary oblique writing by perpendicular characters arose from the endeavour to obtain an upright healthy writing posture in school-children, an object which hitherto, though means of every kind were tried, had never been attained. Every teacher knows how much patience and lung-power the constant injunctions to sit straight demand, how much time is thereby taken away from the proper tasks of instruction, and how nevertheless after a short period the children always sink back again into those bodily distortions with which we are all so familiar, as if a strong magnet were dragging down their heads towards the left side of the copy-book.

Complaints about this are of very ancient date and are repeated in almost every treatise on school hygiene. The worst of it is that every child very soon gets accustomed to his own peculiar cramped way of sitting, which he always resumes during the many hundred writing lessons of his school-life, so that always the same organs are again burdened and the same functions hindered. Everyone thinks chiefly of the dangers of short-sight and crooked growth; scarcely less prejudicial is the hindrance to full respiration and the impeding of the circulation of the blood in the organs of the lower body, with all their consequences, into the details of which we cannot enter here.

To two medical authors, Ellinger and Gross, belongs the glory of having explicitly pointed out in numerous publications, about 1874-5, that the cause of the bad posture of children while writing ought not to be looked for as hitherto in external matters, nor should the blame be laid on the teacher, but that the ultimate reason for oblique sitting lay rather in the way of writing itself; this latter would have to be entirely revolutionised, and in particular a copy-book pushed sideways towards the right must not be tolerated in the case of any child; for herein lay the root of the worst distortions of eye, head, and trunk. In the positive part of their labours, however, Ellinger and Gross were neither in agreement with one another, nor did their views coincide with what we to-day believe should be pronounced the solution of the question.

At first Ellinger demanded oblique writing on a copy-book lying obliquely before the middle of the body; but in the year 1885 he joined the Middle Franconia Reform Movement and professed the

conviction that Vertical Writing in straight middle position is the only correct one.

Gross on the other hand desired perpendicular writing, but, strangely enough, at the same time a slightly oblique position of the copy-book. This is, as I hope to make clear further on, an internal contradiction which the first practical experiments in writing must have rendered obvious. Nevertheless it was the very fresh and stirring pamphlet of Gross that directed the attention of a wide circle to the need of a writing-reform, and thereby gave the impulse to all subsequent efforts. Thus it came about that Dr. Martius, District Medical Adviser, discussed the proposals of Gross in the Medical District Union at Ansbach, and carried a motion in the Middle Franconia Medical Council, to the effect that the Government should, through the official organs, have data collected as to the possible dangers of oblique writing. Simultaneously a critique by Mr. Methsieder, District School Inspector, was produced, which strongly advocated perpendicular writing. At the same sitting of the Medical Council in 1879, the president Dr. Merkel, Medical Adviser, also declared very decidedly in favour of Vertical Writing, which he himself had been exclusively using for many years.

Without going into details on the labours and counter-currents of the next ten years, I will now try to explain our present knowledge of the physiology of writing, and, in connection therewith, give an account of the results of the experiments with perpendicular writing in separate school-classes in Central Franconia, Flensburg and Vienna. In the question before us the direction of the down-stroke as regards the line of writing is the principal point; everything else depends on this. Downstrokes are formed by simple bending of the three writing-fingers, with the assistance at the same time of a slight bending at the wrist. In the upstroke the fingers by extension return again to their original position, while simultaneously the point of the pen is, by movement of hand or arm, pushed away a little towards the right. The first consideration, then, that forces itself upon us is: What direction of down-stroke is unconstrained and natural, and best suits the organs concerned in writing?

The following experiment will show.

Assume a straight symmetrical posture of body, lay a sheet of paper in the middle before you and place your hand ready for writing on it, leaving the hand however still in its position of rest without any sort of muscular tension. It will be seen that the palm of the hand is then not turned downwards towards the paper, as many ancient and modern writing-rules wrongly require, but that it stands perpendicular to the surface of the desk, and the whole hand lies exactly in the

direction of the extended lower arm. The plane formed by the fore-finger and thumb has a very slight inclination to the left, the fourth and fifth fingers are moderately bent, and the hand rests on the nail-joint of the latter.

This posture of hand secures to the fingers that hold the pen the greatest freedom of movement for up- and down-strokes. If now you close your eyes and, without turning or twisting the hand, blindly make a few movements and extensions of the three fingers that hold the pen, the strokes produced will be directed pretty exactly towards the middle of the body and at the same time stand perpendicular to the edge of the desk, supposing that the point of the writing pen is exactly in the middle, in front of the writer. The direction of these strokes, with regard both to the edge of the desk and to the breast, will of course remain exactly the same, if, other conditions being kept unchanged, the paper lies at one time oblique, at another straight before the middle of the body. Only their position relative to the edges of the sheet and to the line will change. They will stand perpendicular to the latter if the sheet lies straight, they will stand obliquely on it if the sheet is placed obliquely. If, however, you push the paper and the blindly writing hand away towards the right, and are careful that in this position the action described above is maintained and the writing-motion completed without constraint by the bending and extension of the three fingers, then the down-strokes though directed as before towards the middle of the writer, will at the same time stand obliquely to the edge of the desk. Their inclination to the line will obviously here too be entirely dependent on the turning of the paper.

From this preliminary experiment the rule seems to follow that in writing, as well in middle position as in right position of the copy-book—left positions do not conceivably occur in right-handed writing—, it is always those down-strokes which are directed towards the breast of the writer that flow most easily from the pen. At the same time the possibility of producing other directions of the down-strokes by violent twistings of the hand is not to be denied, but, as the experiments described above seem to teach us, only such down-strokes as fall on the line of connection between pen-point and breast-bone are executed in accordance with the laws of hand-motion and without constraint.

Let us now see whether these personal observations are confirmed when we let others write, without influencing them at all, in any position of body and copy-book they please. In boys from eight to twelve years of age I measured in 1,586 cases the direction of the down-strokes in regard to the body, and found that with those who

had their copy-book p'aced in the middle before them only slight deviations towards the right took place, amounting to 10°, in rare cases to 15°, and on the other hand also quite inconsiderable deviations towards the left, amounting to 5°, but that the average direction was with tolerable exactness straight towards the middle of the body.

This rule was found to be still more absolute in the case of those children who in writing had pushed their copy-book strongly towards the right ; here almost in all cases the down-stroke coincided with a line drawn towards the breast. If the above observation really attains the importance of embodying a regular relation, then this must declare itself in the direction of the different down-strokes of every long line. Since in the course of such a line the position of the pen-point moves considerably towards the right, it is to be expected, presupposing the correctness of that observation, that the first and last down-strokes are not parallel but converge downwards, that is, towards the breast of the writer. Indeed, I was able to demonstrate such a relation in pupils' handwritings in about 90 per cent. of the cases. That it was not always to be found is sufficiently explained by the care taken to give the down-strokes the same direction. It would now be in place to explain the regularity which has been discovered in the direction of the down-stroke from the anatomy and capability of movement of the writing-joints,—a task to whose solution Dr. William Mayer of Fürth has devoted himself.

The danger of remaining incomprehensible to persons who are not medical men, however, makes me renounce this attempt. From the law (which has since been recognised by all writers on the Vertical Style) that in unconstrained writing all down-strokes are directed towards the breast-bone, the relations which prevail between the direction of the writing and the different positions of the copy-book follow quite naturally. If the copy-book during writing is before the middle of the body, we have to distinguish whether it lies straight, so that its edges are directed parallel to those of the desk, or the side edges of the copy-book run up obliquely from left to right. The former is called the straight middle position, in which only and solely perpendicular strokes can be produced : the latter, on the other hand, is known as oblique middle position, in which the downstrokes must stand obliquely as regards the line at about the same angle as that which the copy-book edges form with the corresponding edges of the desk.

Further it is quite evident that if the copy-book lies to the right, whether it be straight or turned in the way just explained, the down-strokes must stand obliquely on the line. All right-positions

therefore, are inseparably connected with sloping writing. At this point let us once more sum up: in straight middle position only Vertical Writing can be written, and, vice versa, Vertical Writing only in straight middle position. Sloping writing, on the other hand, can be produced equally well in oblique middle position and in straight and oblique right position. It will now have to be examined which of these positions of the copy-book is hygienically the best, and along with this decision judgment will also be passed as to whether the sloping writing, hitherto customary, is without injury for the school-child, or whether it is in this respect inferior to Vertical Writing. At the outset, then, both the right positions must be struck out of the competition; they are, according to the unanimous verdict of all experts, inseparably connected with dangers to the bodily development of the child, and ought as soon as possible to be most strictly forbidden in our schools.

The Spinal Column suffers in this position of the copy-book a twist to the right and at the same time an arched bend towards the left, and with many children there is developed, as William Meyer and Schenk have proved, from this faulty way of sitting at the writing, permanent spinal curvatures with elevation of the left shoulder. Further, with this posture the two eyes approach unduly near the writing, so that the production of short-sight is favoured. The right eye in particular is injured by greater nearness to the writing, stronger extension of the external muscles and increased internal strain (see Fig. 25, p. 87). It was against the obvious inconveniences inseparably connected with every right-position that Ellinger and Gross opened the fight, and since then in all the strife of opinions not one even among the warmest friends of Sloping Writing has been found capable of defending this way of writing.

The right position having thus disappeared, as completely impracticable, from the sphere of our further deliberations,—it is to be hoped that in the not far distant future it will finally disappear from school teaching also,—we shall now have to occupy ourselves in greater detail with estimating the rival merits of the two ways of writing still left, Perpendicular Writing in straight middle position and Sloping Writing in oblique middle position. That in both positions of the copy-book the downstrokes are directed towards the middle of the breast and stand perpendicular to the edge of the desk has already been proved; the difference therefore lies only in the way the paper is placed under the writing-hand. Since in straight middle position the edges of the copy-book are parallel to those of the desk, the down-strokes will come to stand perpendicularly in the copy-book too; if the page is twisted, then the down-strokes, whose direction is not twisted, receive an

oblique position as regards the lower edge of the copy-book and the line.

So it is on the course of the lines that the whole difference (which, however, is not to be underestimated) of the two positions of the copy-book rests, and a contest has for years been going on between the defenders and opponents of Sloping Writing with regard to the influence which the direction of the line exercises on the bodily posture of children.

Let us first of all consider the action of the eye in this respect. Berlin and Rembold maintained that for our organ of sight it was of no importance whether the line ran parallel to the edge of the desk, or rose obliquely up from left to right; for though the eye in the course of the writing followed each single down-stroke, yet it did not follow the line. It was an easy matter to prove the contrary. In children at the age of from 8-12 years I found the movement of the eyes in the course of a line to amount on the average to 13°, and movement was hardly ever absent.

This oblique movement of the eyes up from left to right, however simple it may seem to the layman, is—for ophthalmological reasons which cannot be stated in detail here, but are estimated at their full value by all specialists—by no means a matter of indifference for the eye in the long run, having as its result a left inclination of the head with deepening of the position of the left eye. This was very plainly evident in measurements of the posture of the head assumed by children writing in oblique middle position; the left inclination of the head amounted, in the preponderating majority, to about 10°, sometimes even to from 20° to 30°; in straight middle position of the copy-book the posture was far better; William Mayer, who repeated my measurements on the school children of Fürth, has also confirmed this difference.

If now on the one side we have reason, with respect to the eye, to prefer straight middle position and Vertical Writing, on the other it was urged by the friends of Sloping Writing, that the obliquely rising line in oblique middle position was more comfortable for the hand to write than the horizontal one running parallel to the lower edge of the desk. The former could be written by simple turning of the arm round its point of support on the edge of the desk, whereas the latter required a repeated pushing of the arm towards the right in the course of every line. This offended—so Berlin in particular declared against the laws of movement of the hand, and on that ground Perpendicular Writing with its direction of the line was "unphysiological," that is, contrary to nature.

Let us briefly examine these views. A more frequent movement

of the arm is indeed requisite in Vertical Writing, but nothing unphysiological can be discovered in this fact. Otherwise we should have to suppose that in all the Middle Ages, which, as is well known, knew only perpendicular characters, or characters inclined at the most 10° to 15° to the right, violence was done to the wrist in the writing of every line—for what reason no one understands—and yet throughout those many centuries not a single person among millions of writers observed that this way of writing was uncomfortable, nay unnatural, and that the laws of movement of the hand demanded Sloping Writing with oblique direction of the line. In all the antique representations hitherto accessible to me of monks, women, and children in the act of writing the straight middle-position is without exception to be seen (see Figs. 1 and 2). To venture to describe such time-honoured customs as contrary to nature is really to depreciate the inventive faculty of our ancestors. At the same time it is by no means to be denied that in very quick writing, to which particular callings at the present day see themselves forced, Sloping Writing with oblique position of the paper is requisite; indeed I even think that in the growing need for rapidity of writing lies the cause of the predominance which within the last two centuries Sloping Writing has been gradually acquiring. The excessive right-inclination of the down-strokes, amounting to 45°, which to the detriment of the clearness and legibility of our handwritings has only in recent times become customary, must in any case be described as an error which nothing justified, not even haste and hurry. To attain the objects of quick writing a slightly oblique position of about 20° would abundantly suffice. But it seems to me in no way justifiable to use the oblique style in elementary teaching; it offers no advantage at all except in writing at headlong speed, and is therefore entirely unnecessary for the great majority of children not only at school but also throughout life. Moderately rapid writing, as school experiments to be mentioned later have shown, is quite compatible with perpendicular characters (see p. 122, also p. 153).

If sloping writing with oblique middle-position of the copy-book involved slight left-inclination of the head only, then a serious objection could scarcely be raised against this way of writing; every side-inclination of the head, however, has as its result, on statistical grounds, a compensatory twist of the spinal column, whose far reaching effect cannot be underestimated if we take into account the many hours which in the course of the whole school-time are spent in writing. The principal danger lies in the fact that there are no means of keeping children who write the sloping style fixed in middle position with moderately oblique position of the copy-book; even under the eyes of the teacher, and still more in writing without expert oversight, there

appears almost in all scholars a nearly irresistible mania for turning and pushing the copy-book, till the body is twisted in a dangerous way and assumes a posture which seems incredible when seen before one fixed in a photograph. Some children carry the turning of the copy-book too far, the direction of the lines becomes uncomfortable for the arm in the normal posture of writing, the right elbow is pushed on to the desk, the right shoulder follows, moves forward and rises, the body supports itself with the right side against the writing desk, the spinal column is turned towards the left about its axis of length and shows an arched curve towards the right, while the left arm entirely slips down from the desk, on which only the fingers of the left hand still find a sorry support. Others, and indeed the majority of children, fall into the opposite fault, the copy-book is placed only slightly oblique, and therefore pushed so much the further towards the right, while the bodily distortions characteristic of right positions now show themselves.

This, then, is the most serious hygienic disadvantage of Sloping Writing,—and there is absolutely no way of obviating it,—that it allows the children to abandon the oblique middle position recommended by Berlin, with moderate turning of the copy-book of 30°–40°, in which the posture, though worse than in Vertical Writing, is at any rate tolerable, and to assume middle positions in which the copy-book is turned through much too great an angle, together with any degree of right position they choose, with all conceivable bodily distortions. Perpendicular Writing, on the other hand, can only be produced in straight middle-position, and so gives a guarantee that the children will be preserved in the preparation of their home-lessons also from the bad cramped postures which threaten health in so many ways. The Hygiene of the home-work forms an exceedingly important section of school organization, but lies, in the nature of the case, to a great extent beyond our influence.

We are deprived of the possibility of securing for the child in its parents' house, good light, a writing-desk suited to its stature, and a well-ventilated room ; and all that school hygiene has up to the present been able to do in favour of the home-lessons has been limited, besides quantative restriction of them, to the improvement of the printing. We ought to gladly and vigorously take hold of the new and exceedingly important handle which Vertical Writing offers for hygienic regulation of the writing-posture in the parent's house ; in it I see by far the most essential advantage of Perpendicular Writing.

Though Sloping Writing be encompassed with well-intentioned and carefully thought out regulations as to the position of the copy-book and the posture in writing which must be maintained, it will

never be possible to attain a certainty or even any probability that the children will remember these precepts when writing without supervision. Sloping Writing, and this is its fundamental fault, can be written in many different postures, and by preference in the most distorted of all; Vertical Writing, however, possesses a kind of automatic steering apparatus, whereby it avoids bad sitting during writing.

Let what has been said suffice to indicate the scientific basis of the writing reform in its main points. At the present day, after we have accumulated several years' practical experience in schools with regard to Vertical Writing, detailed investigation of many of the more difficult divisions of the preliminary inquiry may well be omitted; especially it seems to me unnecessary in this place once more to enter into details on the alleged law formulated by Berlin of the rectangular intersection of downstroke and eye-base line, since I venture to consider it contradicted by numerous measurements of my own which were confirmed by Schenk, Daiber, and Ausderan, and since besides it has no bearing whatever on the practical solution of the question. In our writing-reform, as in all the departments of Hygiene, no matter how thoroughly theory may have prepared the way, the decisive word is always to be looked for only from the test of practice. The earliest experiments in schools were undertaken in Middle Franconia, the cradle of the Vertical Writing question in its present form; individual teachers of Fürth and Schwabach have now been practising Vertical Writing for three years, those of Nuremberg for two years, and what those men say,—who have not employed Vertical Writing only cursorily and superficially for a few weeks, but have used it exclusively in their classes throughout the full school-year from the first stroke on the slate to copy-book writing,—what judgment these competent critics give, in this lies the decision with regard to Vertical Writing as a school writing. The teachers of our district know that these tests have turned out exceedingly favourable.

Written reports from the gentlemen at Fürth and Schwabach, as well as the lecture of Herr Wunderlich at the last Nuremberg District Teachers' Conference, allow me to cut short my account of the proceedings at home, and the more so as the results obtained here coincide in all essential points with those collected abroad. There is only one thing I should like to mention, that my photographs of children writing vertically and obliquely, which caused some sensation here as well as in Munich, show better than many words the difference in the posture of body. The objection raised from many sides that an attentive teacher would not allow such awkwardness even with Sloping Writing, rests on a complete misapprehension of

the object of these photographs. They ought by no means to raise a complaint against the teacher of the obliquely-writing children; I am convinced that he at sight of such a bad posture at once interposes with severe reproof, that he does this incessantly every day from year's end to year's end, and is forced to do it because the children, not by his fault, but through the fault of the oblique writing, after a few minutes always wrinkle up again like moistened pasteboard. What the photographs ought to teach is, that the teachers in obliquely writing classes perform a labour like that of Sisyphus when they try to train the children to sit erect, that the little ones only pull themselves up by fits and starts in consequence of the command, and almost only during the time it lasts, and that in the home-lessons a picture such as that represented presents itself without any resistance. We must really also confess to ourselves, quite in confidence, that even in the school, when the teacher does not constantly preach "sit straight," when, following his principal task, he buries himself in the subject he is teaching, often enough the photographic pictures present themselves. In the taking of them neither the children who wrote vertically nor those who wrote obliquely were commanded to sit upright, in order that the conditions might resemble as much as possible those that exist in the daily home-lessons. That the posture of the former, therefore, is incomparably better, is obvious from the photographs.

It is a matter for congratulation that the theoretical treatises on Vertical Writing issuing from Middle Franconia have been tested also in other parts of Germany and caused practical experiments in many classes.

According to information received by letter from Principal Scharff at Flensburg, in May 1889 the Prussian Government of Schleswig-Holstein issued through the district school inspectorate a circular in which it was required that in writing the angle of elevation of the characters should amount to not less than 70°. By this enactment the authorities in Schleswig seem desirous of finally doing away with the excessive obliquity of 45° which has hitherto been generally demanded. At Scharff's suggestion the teachers of Flensburg went a step further still, and after the above-named teacher had first had one class writing vertically since December 1888, in June 1889 introduced Perpendicular Writing into most of the public schools. At the close of the school year Scharff declared in a lecture that the bodily posture in Perpendicular Writing is an unconstrained one, does not hinder the writing-activity, and is employed by the scholars in their home-lessons also. Perpendicular Writing, he said, by its superior clearness most perfectly accomplishes the object of writing, and is easiest to

learn, since the child brings the idea of the perpendicular direction with him into the school, and since this idea can here at any time be easily rectified by reference to perpend cular walls, doors, etc., which is not the case with any other angle of elevation.

In a writing competition which Scharff instituted between his scholars and those of an equally high class in another school, it was found that at least as great rapidity was attained with Perdendicular Writing as with sloping. His best scholar required twenty-four minutes to copy a poem, the best among the rivals thirty minutes.

In December 1889 the "Schleswig-Holstein School News" contained the following intelligence from Flensburg: "The enactment of "the Imperial Government, concerning the less oblique position of "the letters in writing, has led to an experiment being made here with "Perpendicular Writing, the results of which up to the present may "be described as favourable almost beyond expectation."

Vertical Writing has attained prominent importance in Vienna, where Principal Emmanuel Bayr has adopted it with great success. His first experiments began in April 1889, with from three to four children in each of the five lower classes, while the others wrote in oblique middle-position, in which the prescribed angle of inclination of the head was marked on the writing-desk.

Afterwards, in the District Teachers' Conference of the sixth Vienna Communal District, Bayr delivered a lecture on the result of his experiments, in which he very decidedly advocated Vertical Writing, relying on a critique by Herr Toldt, Prof. of Anatomy, which appeared in print in Bayr's pamphlet entitled "The Vertical Roman Style of Writing," and contains a critical sifting of the reasons adduced by authors for and against Perpendicular Writing, with the result that Vertical Writing is given the preference on account of its favourable influence on an erect posture of body. Bayr as well as Toldt, and with them the whole subsequent reform-movement in Vienna, put forward at the same time the demand that the so-called German Current Hand should be abandoned and be replaced by the Roman character. The Middle Franconia Medical Council, as is well-known, has thought it more desirable not to connect the question of the Roman character with that of Vertical Writing.

In the autumn of 1889 Bayr began to employ Vertical Writing to a greater extent in the public school of five classes which is under his control. Both parallel courses of the first school-year, and also one parallel course of the second class, wrote vertically, while the other course wrote obliquely in oblique middle-position (according to Berlin) as hitherto; similarly in the third class. In the fourth and fifth class individual scholars wrote perpendicularly, the others

obliquely in oblique middle-position. Principal Mock, too, began with Vertical Writing in the first class of his public school, as also some first classes in the ninth district. At Bayr's request these experimental classes were repeatedly visited during the past school year by the most prominent educationalists of Vienna, as well as by medical authorities, who, according to intelligence received by letter from Bayr, all without exception were convinced of the hygienic superiority of Vertical Writing and have since then for the most part themselves actively led the way in favour of Vertical Writing. For example, on the 9th of April a commission, consisting of the District School Inspector Herr Fellner, Principal George Ernst, and several teachers, inspected Bayr's schools ; in the fifth class the vertically writing children were required to place their copy-book obliquely and to write obliquely : "The children now wrote obliquely, and their "fine posture vanished ; they sat badly ; nothing more was to be "seen of a straight bodily posture. But when ordered to place their "copy-book straight again and to write vertically, they sat as straight "as a rush." On the 19th of April Prof. Fuchs, the Vienna ophthalmologist, spent two hours in Bayr's school. In the first vertically writing class he found a model posture and clear writing. In the case of one child the eyes were found to be 32 c.m. distant from the writing. In the other cases no measurement was made, because it was seen that the distance was approximately the same. In the obliquely-writing course of the second school-year Prof. Fuchs found, in spite of the fact that oblique middle-position was enjoined, some children writing with straight right-position. The governess, on being questioned, explained that the children always abandoned the oblique position in spite of admonitions.

"Prof. Fuchs now observed the children who had their copy-"book placed in the way required by Berlin and Remboldt. These "children sat badly, like the rest." In the fifth class some wrote vertically, others obliquely. . . . "Of those who wrote vertically only "one out of about twenty sat badly, of the obliquely-writing children "the majority. . . . At his request the children were collectively asked "before the writing to sit straight, but only the vertically writing suc-"ceeded in this." . . . "The following direction was now given to the "children : 'All write as quickly as you possibly can.' . . . The "vertically-writing were ready simultaneously with the obliquely-"writing children, and no difference as regards rapidity was apparent." Prof. Fuchs found that the perpendicular writing was clearer than the oblique. One vertically-writing female pupil attracted his attention by her bad way of sitting ; it turned out that the child had only been writing vertically for three days. The results in the other classes

were similar. Prof. Fuchs has meanwhile published in the "New Free Press" (morning edition, 20th May, 5th year) an article in favour of Vertical Writing, in which among other things he says that the expectation that Sloping Writing in oblique middle position must allow an equally good bodily posture as Vertical Writing in straight middle-position has not been fulfilled. "Theoretically the two ways "of writing should be almost equivalent, and both ought to be capable "of being produced with equal ease in the correct posture of body.

"But all theory is vague; of this our recent school-visit ought to "have convinced us."

The Middle Franconia Medical Council is well acquainted with the fact that the author as early as 1880 had declared the oblique middle-position incompatible in the long run with an erect posture in sitting, on theoretical grounds, and on account of the necessity of pursuing the obliquely rising line with the eye. On the 10th of May Bayr received a visit from Max Gruber, Professor of Hygiene, who delivered a lecture at the next sitting of the Supreme Council of Health on the very favourable impression which the posture in Vertical Writing made upon him, and moved that a commission be entrusted with the testing of Vertical Writing.

Accordingly Herr Albert, Court Councillor, Professor Gruber, and Dr. von Wiedersperg from the Supreme Council of Health, and also Prof. E. Fuchs, Prof. von Reuss and Prof. Lorenz were named extraordinary members of this commission, which then on the 4th of June, with the accession of Dr. Immanuel Kusy, Ministerial Councillor and Sanitary Adviser in the Ministry of the Interior, inspected the vertically-writing children in Bayr's school and expressed themselves in terms of praise. Meanwhile, however, as the "Journal of Education and Instruction" (No. 8, 2nd year) informs us, Herr Albert, Court Councillor, has already in his lectures declared for Vertical Writing.

In July, Vertical Writing with the Roman character stood on the order of the day of the tenth Vienna District Teachers' Conference.

The speakers had all taken an opportunity either of testing Vertical Writing themselves in their own classes or of studying it with Bayr. Theses were heard at all the conferences in favour of Vertical Writing, and were accepted, with exception of the tenth district, where the thesis on Vertical Writing was defeated by 66 votes against 62.

Finally a few more reports received by letter on Bayr's vertically-writing classes may be mentioned. Principal Bayr says with regard to the experiments in the fifth class, part of which writes perpendicularly, part obliquely (with oblique middle-position): "The governess lays "great stress on the erect posture of the children."

At the beginning the children all sit straight. To the specialist, however, even at the outset, the straight posture of the vertically-writing children is remarkable; the others lose this fine erect posture at the first stroke which they make obliquely. After the lapse of three minutes the sloping writers will fall together (collapse). After ten minutes they assume the most peculiar posture, after a quarter of an hour their head is scarcely 12 to 14 c.m. distant. The vertically-writing children remain sitting straight during the whole writing lesson, and in as good a posture as at the beginning. Usually after four to five minutes the stranger can distinguish all those who wrote vertically from behind without having seen the writing. Dr. Aloys Karpf, Custodian of the Imperial and Royal Trust Commission Library, writes: "To-day I had an opportunity, along with Principal Francis "Zdarsky and Teacher H. Saik, of observing the progress in this way "of writing among the children in several classes of Principal Immanuel "Bayr's school. It was observed that the posture of the children, on "each of the many times they set themselves to write, was, with "astonishingly few exceptions, a model one. The advantage of the "endeavour to attain such a posture cannot, from the standpoint of "school hygiene, be sufficiently often emphasised. Attempts to make "the children write rapidly in this way succeeded to the particular "satisfaction of Principal Zdarsky, who attached special importance "to this point. To judge by the experiments, especially in the first 'class, I am disposed to adopt the psychologically explicable assump-"tion that more pleasing forms are more quickly attained with those "children who begin at once with Vertical Writing than with those "who are urged to Vertical Writing only when already practised in "the sloping writing."

Caroline Seidl, city governess, who teaches under Bayr in the fifth writing class (mixed) reports: "The female pupils of the fifth class "were introduced to Vertical Writing only at the beginning of the "school year 1889–1890. The transition from the Sloping Writing "practised during four years to Vertical Writing involved not the least "difficulty for the children in respect to the posture of body, hold-"ing of pen, or technical execution. It was also an easy thing for "them on command to pass from Vertical Writing at once back again "to Sloping Writing. . . .

". . . All the children who were introduced to Vertical Writing "afforded, in respect to faultless sitting and caligraphy, thoroughly "satisfactory and frequently even surprising results. . . . On com-"paring the writing of a copy-book in which the writing was first "sloping and later vertical, one could perceive with satisfaction how "much prettier and more regular an impression was made on the be-

"holder by the Vertical Writing as contrasted with the Sloping "Writing. What a salutary tranquil look a vertically writing class "keeps, what a restless spirit prevails among a number of obliquely "writing scholars with the constant change of the posture of the body "and position of the copy-book which can never be completely kept "in check even with the most attentive supervision. This year I have "made repeated experiments in regard to the point just mentioned, "with the female scholars of the fifth class. In respect to rapidity of "execution, too, I have not been able to find any kind of hindrance "in the use of Vertical Writing; there were, indeed, many sloping "writers who could not follow the vertical writers. When compared "these rapid writings show a great difference in respect to their clear- "ness and legibility, which decided in favour of Vertical Writing."

From the remaining parts of Austria also come reports as to the growing interest in the question of Vertical Writing, which among others has been discussed at the District Teachers' Conferences of Schwanenstadt in Austria, of Egydi-Tunnel in Styria, and of Salzburg.

The educational literature of Austria is much occupied with Vertical Writing; see for example Rieger's "Journal for the Austrian Public School System," 1890, Nos. 8 and 11. "The Public School," 30th year, Nos. 24 and 26. "The Lower Austria School News," 3rd year, No. 22. "The Journal of Education and Instruction," 4th year, No. 8. In Buda-Pesth, Prof. Joseph Fador advocates the introduction of Vertical Writing. In Hamburg also on the initiative of Dr. Kotelmann Vertical Writing was experimentally introduced into a higher girls'-school. In Antwerp Vertical Writing is recommended by Dr. Mayer, school doctor ("The Female Teachers' Guardian," 1st year No. 6, p. 13). For a series of years Dierckx' writing has been practised in Brussels; though not quite perpendicular, it is at any rate steep and only inclined about 15° towards the right. With it the children maintain a hygienic posture, as has been recently boasted again by Dr. von Sallwürck, Member of the Council of Education ("Journal of School Hyiene," 1890, No. 1, p. 56). In France, as was evident at the International Congress of Hygiene in Vienna 1887 and in Paris 1889, there prevails the most gratifying unanimity on the part of all the authorities of public hygiene in favour of Vertical Writing.

With gratifying unanimity the experiments made in the most diverse parts of Germany show that Vertical Writing quite materially improves the posture of the children, that it allows the degree of rapidity required in the school and quite sufficient for the preponderating majority of callings, is in case of need easy to convert into Sloping Writing, surpasses the latter in clearness and offers besides many kinds of educational advantages.

It is my firm conviction that Vertical Writing when generally introduced does not burden the teachers, as many believe, with a new and difficult work, but on the contrary quite materially lightens for them the very heavy and rather thankless labour of constant exhortations to a better bodily posture, and gains them time and strength for working at their principal task, education and instruction. I trust that a not too distant future will confirm this prophecy.

APPENDIX III

MR. ADAMS FROST examined a Board School in London and found therein among 267 scholars, 73, or 27·3 per cent, with sub-normal vision.

The (Philadelphia) Report explains that while some of the classes in the primary and secondary schools had had hygienic surroundings and in the grammar schools the arrangements were not of the best, in the normal schools the greatest possible care had been given to the lighting and seating of the class rooms with the result of making them as nearly perfect as possible in the present state of our knowledge of the requirements. **Yet in spite of this and of the fact that the pupils were much older and therefore less susceptible to unfavourable circumstances "The showing for myopic eyes was almost as bad as in "the lower schools."**

(R. Brudenell Carter F.R.C.S., Ophthalmic Surgeon to St. George's Hospital—Medical Times and Gazette, April 25 and May 2, 1885.)

Shortsightedness is developed almost exclusively during School-life; rarely afterwards and very rarely before that time. Is this coincidence of time accidental?—i.e. does the shortsightedness arise at the period about which children go to school? or has school-life caused the shortsightedness? Statistical enquiries prove the latter to be the case.

The well-known orthopædic surgeon Eulenburg also states that 90 per cent of curvatures of the spine which do not arise from a special disease are developed during school-life.

These statements have particularly struck me as coinciding exactly with the period of the development of shortsightedness and I have paid the more attention to this relation between spinal curvature and shortsightedness as they seem to form a circulus vitiosus in so far as shortsightedness produces spinal curvature, and curvature favours shortsightedness.

The frequency of the so-called scoliosis or lateral curvature of the spine has its principal origin in the position in which the children sit during their school time **especially while writing.**

But what now is the normal posture? The upper part of the body is to be kept straight, the vertebral column neither twisted to the right nor to the left; the shoulder-blades both of the same height, are, together with the upper arm, freely suspended on the ribs, and in no way supporting the body; both elbows on a level with each other and almost perpendicular under the shoulder-joint without any support; only the hands and part of the forearms resting on the table; the weight of the head freely balanced on the vertebral column and not on any account bent forward, but only turned so much round its horizontal axis, that the face is inclined sufficiently to prevent the angle at which the eye is fixed on the book from being too pointed.

(Dr. R. Leibrich, Consulting Ophthalmic Surgeon to St. Thomas' Hospital.)

The twisted and curved position of the spine caused by writing is doubtless a very potent factor in the production of Lateral Curvature. **The more slanting the writing the worse the position, and I would strongly advise that upright writing be universally substituted for the slanting** (p. 73).

The posture necessitated by ordinary writing is probably that which causes more harm to the spine than any other, but the system of upright writing so ably advocated by Mr. Jackson is calculated to reduce this harm to a minimum. I have referred to this subject in another part of this volume but I take this opportunity of advising the reader to obtain Mr. Jackson's publications upon this system of upright writing with which I have become acquainted only since urging the advantages of substituting upright for slanting writing in the Second Edition of this book.

(Curvatures of the Spine by Noble Smith, F.R.C.S. Ed., L.R.C.P. Lond., &c. Third Edition, pp. 73 and 108.)

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